

Public Utilities



Volume 66 No. 3

August 4, 1960

THE RELATION BETWEEN A FAIR RETURN AND THE RATE BASE

By John H. Bickley

z 3

How a City Changed Its Mind

By Ruby Proctor

e 3

Future Demand and Plant Adequacy in the Electric Industry

By Franklin H. Cook

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New York Telephone Association Convention

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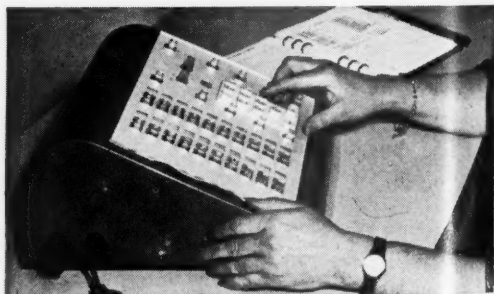
Key to the new system are push-button "switchboards"—smaller than adding machines—which replace the familiar plug-and-cord boards.

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Public Utilities

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How a City Changed Its Mind Ruby Proctor 159

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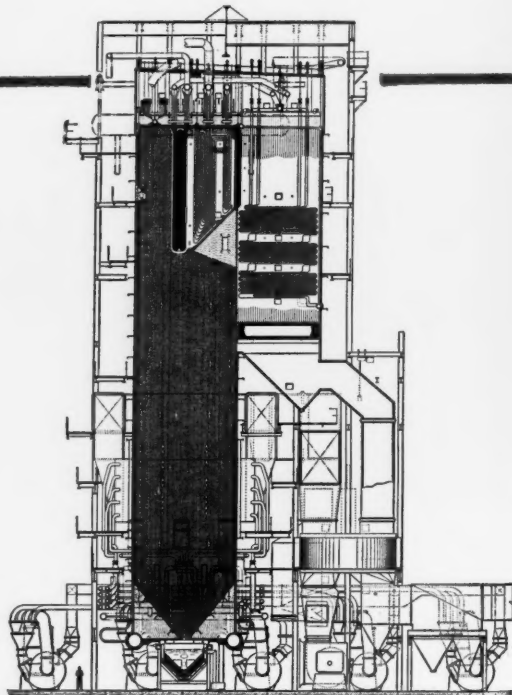
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Darlington County

New Darlington County Plant *Goes into service*



The C-E unit shown above is now in service at the Darlington County Steam Electric Generating Plant of the Carolina Power & Light Company. It is a controlled-circulation, radiant, reheat boiler of the divided furnace type with reheater surface located between the primary and finishing superheater sections. This primary superheater surface is located in the rear pass with an economizer section below it. Regenerative type air heaters follow the economizer surface. The unit is pulverized coal fired, using bowl mills and tilting, tangential burners. Arrangements are made to use natural gas in the future if desired. This is an "outdoor" unit.



Carolina Power & Light Company recently put on the line the largest single generating unit in the CP & L service area when its new Darlington County Steam Electric Generating Plant was added to the system. Ebasco Services, Inc., were the consulting engineers.

Located near Hartsville in the Pee Dee section of South Carolina, this will be the 15th generating plant of the CP & L system, and its 10th generating unit installed since World War II. It brings

system capability to above 1½-million kw.

This first unit in the Darlington County Plant will have a net capacity of 185,000 kw, operating at a throttle pressure of 1800 psi and a steam temperature of 1000 F, reheated to 1000 F. Ultimate capacity of the station is planned to be above one million kilowatts.

The new unit is served by a C-E Controlled Circulation Boiler. A cross-sectional elevation and brief description appear on the opposite page.

C-273

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Pages with the Editors

"THE tumult and the shouting dies;
The Captains and the Kings
depart."

WE thought of these slightly melancholy—almost cynical—lines from Kipling's "Recessional" as we watched the TV windup of the great political conventions. This quadrennial circus may not be the best of all possible ways to pick our major candidates for President, but it is certainly a decisive way. And in the rough-and-tumble of closed-door strategy and out-right scrambling for delegates, somehow there is impressed on the people at large the conviction that whatever pre-convention uncertainties existed, there is little doubt remaining that the choice of the Democratic party for President is Senator Kennedy (Democrat, Massachusetts) and for the Republican party it is Vice President Nixon.

If there were any intraparty misgivings as to the wisdom of these respective choices, they were all carefully suppressed in the welter of closing oratory, traditionally known as the "closing of the ranks." As each party chieftain and regional Warwick proclaimed his support for "the ticket," it resembled vaguely the ritual of nobility following a coronation

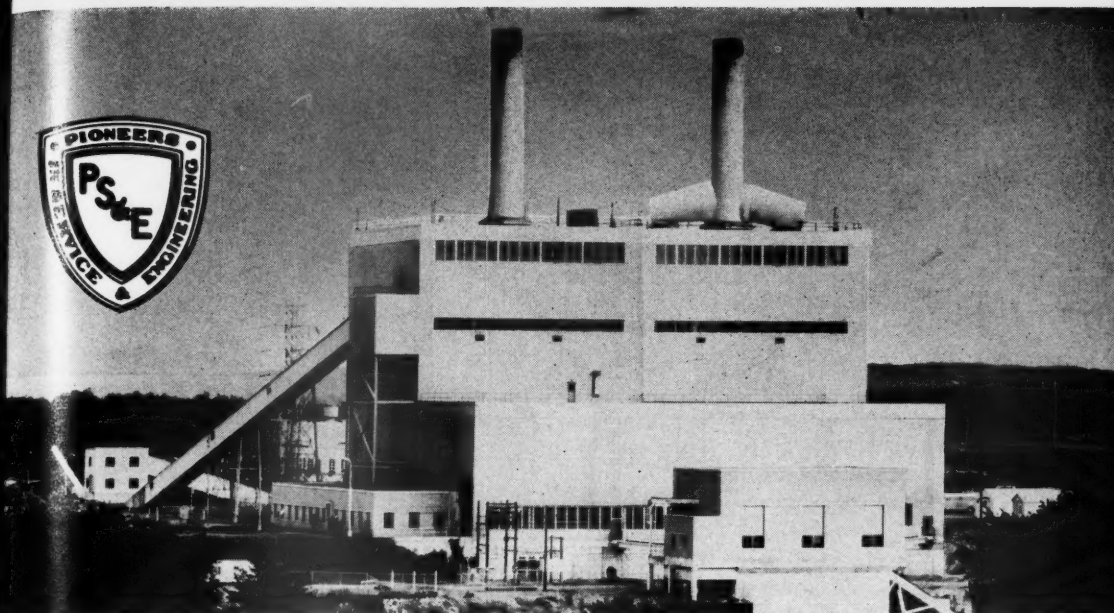
ceremony in which each pledges his loyalty to the newly crowned. There may be, and doubtless are, lingering doubts in the hearts and minds even of those who proudly saluted their respective party champion. But it is part of the Great Political Show to smooth over any such politically heretical thoughts once the conventions have made their choices.

Now, and for over three months, the scene shifts to the next phase, the national presidential campaign. The convention halls have darkened, the last oratorical note has died away, the bands have disbanded, and the TV cameras have been packed off to more timely spectacles. The great conventions have done their job—and go into the files of history. Four years hence they will be exhumed to furnish statistical comparisons, or "color background." But let us not rush things, thinking about that. Another pair of national conventions right now would be almost more than a good many of us could bear.

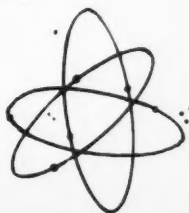
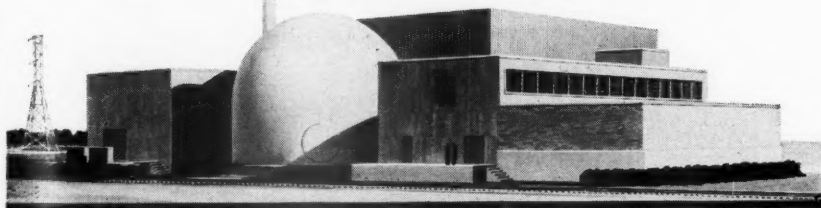
FROM the standpoint of special areas of interest, however, the very concentration of attention at these national conventions on personalities of candidates and upon controversial headline issues, such as the civil rights planks in the party platforms, can provide a worrisome distraction. One looking for news of such special interest must plow through pages of newspaper copy and other "color background" to find out what was said or done which would have any impact on public utilities. The Democratic platform suggests, for instance, changing the 27½ per cent tax depletion allowance for oil and gas producers. This would breach a rampart long valiantly defended by the two Texas stalwarts, House Speaker Rayburn and Senate Majority Leader Johnson. There are other proposals about natural resources and domestic regulatory policies



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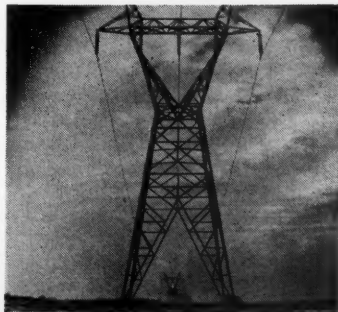
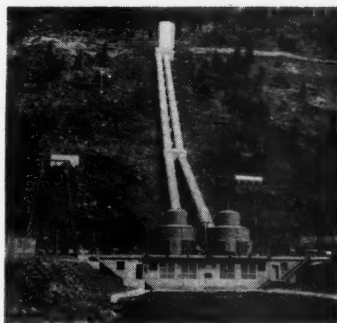
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PAGES WITH THE EDITORS (Continued)

which might well have a bearing on the future of public utility industries but were largely overlooked in the press and television coverage.

THIS is understandable because of the lack of popular interest in such details; and it is not suggested that the outcome of the elections (at either national or local levels) will depend on such subordinate issues. But they are important to the industries involved; and the situation serves to remind us that the fortunes of industry can be bound up in "package" deals, without argument or even public recognition of what is going on. Next November the American people will vote to take either the Democratic package or the Republican package, many without thinking too much of what is inside of each package. Perhaps that is inescapable, in a popular democracy where personalities rather than issues command public attention. It is also part of the calculated risk of going into one line of business rather than another.

THE opening article in this issue comes to us from a veteran on both sides of the regulatory fence. He is JOHN H. BICKLEY, whose article on "The Relation between a Fair Return and the Rate Base" leads off on page 145. A graduate of the University of Pennsylvania (1915) and a former instructor and associate professor at Lehigh University, Mr. BICKLEY has seen service between 1924 and 1937 with the Federal Trade Commission, the Federal Communications Commission, and the public service commissions of Wisconsin, Pennsylvania, and Maryland. He played a leading part in the telephone industry investigation by the FCC in the mid-1930's. During World War II, he was consultant for the War Production Board and the TVA. From 1948 to 1950 he became president of the Louisville Railway Company and more recently has been a utility consultant.

* * * *

THE article on "How a City Changed Its Mind," which begins on page 159, comes to us from the lady assistant public relations director of the Gary-Hobart



FRANKLIN M. COOK

Water Corporation of Gary, Indiana, MRS. RUBY PROCTOR. She is a former newspaper woman and free-lance writer. She gives us a practical and informative account of how public opinion was changed in ninety days by a well-planned public relations program, resulting in a victory at the polls for the continuation of private ownership of the water utility service in Gary, Indiana.

* * * *

FRANKLIN H. COOK, professor of the department of commerce, college of business administration, The Pennsylvania State University, is the author of the analytical article, beginning on page 167, on the subject of "Future Demand and Plant Adequacy in the Electric Industry." COOK is a native of Pennsylvania. He was educated at Bucknell University (AB, '33), Duke University (LLB, '36), and The Pennsylvania State University (AM, '40). He has been active in the affairs of the American Economic Association and the American Association of University Professors. He has written many articles on public utility economics and accounting. His most recent publication is "Significant Ratios in the Electric Power Industry."

THE next number of this magazine will be out August 18th.

The Editors

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Coming in the Next Issue..

(AUGUST 18, 1960, ISSUE)

CANADA'S REGULATORY PROFILE

The regulatory problems of Canada, both at the Dominion and provincial levels, appear on the surface to be somewhat dissimilar to corresponding problems of the federal and state governments in the United States. But actually the difference is chiefly a matter of timing. In Canada, regulation of public utility services, such as natural gas, is still relatively new and still resisted to some extent. Last year the National Energy Board was established by the Canadian government following a lengthy study and report by a Royal commission. The Honorable E. C. Manning, Premier of Alberta, tells us, in this descriptive article, about the program and outlook for gas regulation and oil and gas conservation policies in the Dominion and in the Province of Alberta.

GOOD PUBLIC RELATIONS PROGRAM COUNTERS PUBLIC APATHY

We often hear about the "image" of a public utility company with respect to its public relations program. Actually, there may be as many images as there are viewpoints. The company may be the same, but viewed from the different angles of consumer, investor, etc., the individual reflections may be influenced by the eye of the viewer. In this practical article by a veteran utility executive, Harry T. Pritchard, chairman of the board of Indianapolis Power & Light Company, there is some down-to-earth advice on the real task of focusing on the company's image so as to bring about a more accurate reflection by a positive and energetic public relations program that will dispel public apathy.

THE OUTAGE THAT WAS A BLOCKBUSTER

Most of the popular explanations about why a half-million New Yorkers were blacked out during the electric power outage last summer were wrong. Some blamed air conditioners. Some blamed wiring. But why the areas served by 20 cables—more than adequate for any expected load—were blacked out remained an engineering mystery. James H. Collins, in an entertaining "post-mortem" analysis of what happened in New York last summer, draws some conclusions of interest to power company public relations departments.

AND IN ADDITION . . . Special financial news, digests, and interpretations of court and commission decisions, general news happenings, reviews, Washington gossip, and other features of interest to public utility regulators, companies, executives, financial experts, employees, investors, and others.



INDIAN POINT



Indian Point Station as it looked in April this year, showing some of the piping to be installed by Kellogg's Power Piping Division

NUCLEAR POWER PIPING BY KELLOGG

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m electric generating station,
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"There never was in the world two opinions alike."

—MONTAIGNE

LYNDON B. JOHNSON
U. S. Senator from Texas.

"... under the regulations imposed by the various public utility commissions, the telephone companies are guaranteed reasonable returns on their investments."

WILLIAM HENRY CHAMBERLIN
Author.

"It is a great pity and irony that just when the strength of the United States lies in being as different from the Soviet Union as possible, in adhering firmly to the principles of the free market, consumer free choice, maximum opportunity for the individual, there are voices in this country that use a mistaken fear of Soviet economic competition as an argument for driving us further along the path toward economic statism."

EDITORIAL STATEMENT
The Wall Street Journal.

"People can get excited when some labor official, as many have, dips his hand in the union till or has somebody knocked in the head. Very few show concern about the power of unions to knock the country in the head. Perhaps it is just one of those cases where people ignore a threat until it becomes a real disaster; a 'Mein Kampf' always seems too arrogantly fantastic to be true. If so, no one ought to be surprised if one day a Jimmy Hoffa says 'the public be damned'—and the public finds that it is."

DAVID H. DAWSON
*Vice president, E. I. du Pont
de Nemours & Company.*

"Our responsibilities as American citizens and businessmen do not cease when we have manufactured, sold, and delivered a certain quota of goods. It is up to us, each of us, to maintain constant vigilance, to speak out clearly against these forces that would limit our nation's freedom. Above all others, we should know that a strong America needs healthy, dynamic, competitive industry; we should be alert to the attempts to weaken it; we should be prepared to defend it in the struggle for men's minds."

ROBERT B. ANDERSON
Secretary of the Treasury.

"[The aim of achieving sound money] is more than an end in itself; it is absolutely essential if our other important economic objectives are to be realized as fully as is possible. The government's first aim must be to produce a rapid rate of economic growth. This view is wholly inconsistent with our basic ideals. Growth cannot be forced in a free-choice economy. Economic growth at an artificial rate, forced through unsound practices, can only cause the loss of some of our most cherished economic freedoms—or inflation—or both. . . . If we should ever allow a lack of confidence to develop in the future of the dollar, the desire to save . . . will be weakened. Growth will be impeded. Full confidence in the future value of the dollar can be maintained only if we remain constantly alert to all of the forces and practices that promote inflation."

"Workshop-on-Wheels"

DODGE TRADESMAN for 1960

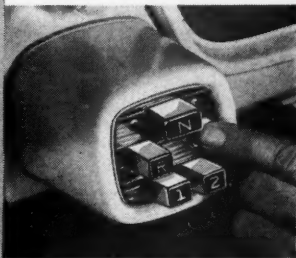
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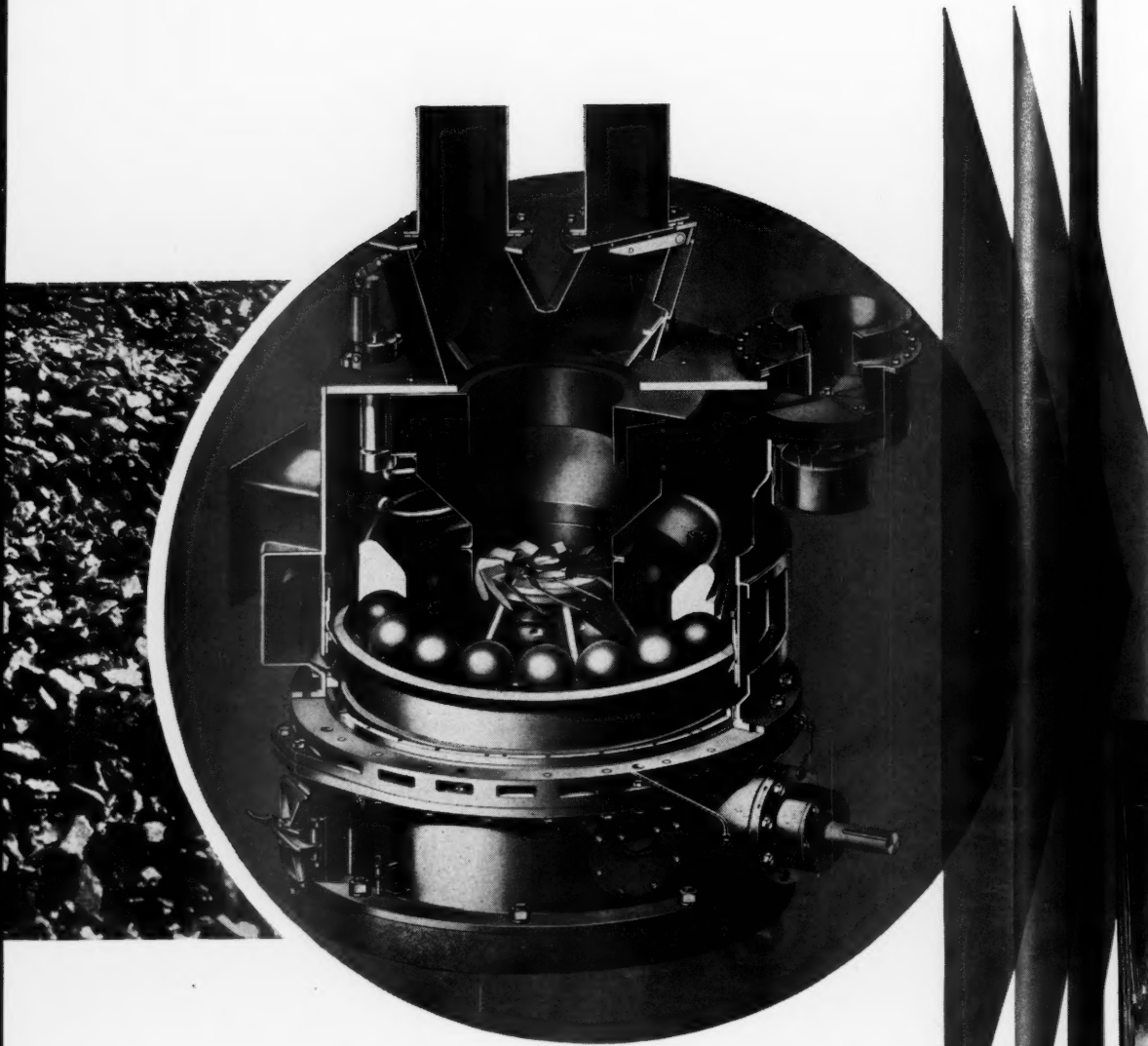
LoadFlite push-button automatic transmission, found only on Dodge trucks, provides greatest driving ease plus top economy. Optional.



Dodge 4 x 4 Models, like this crew-or-cargo-carrying Town Wagon, deliver bonus traction . . . make any off-road job easy to reach.

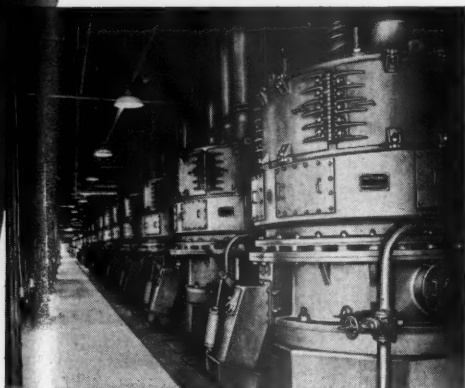


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Director of Personnel, Electric Company

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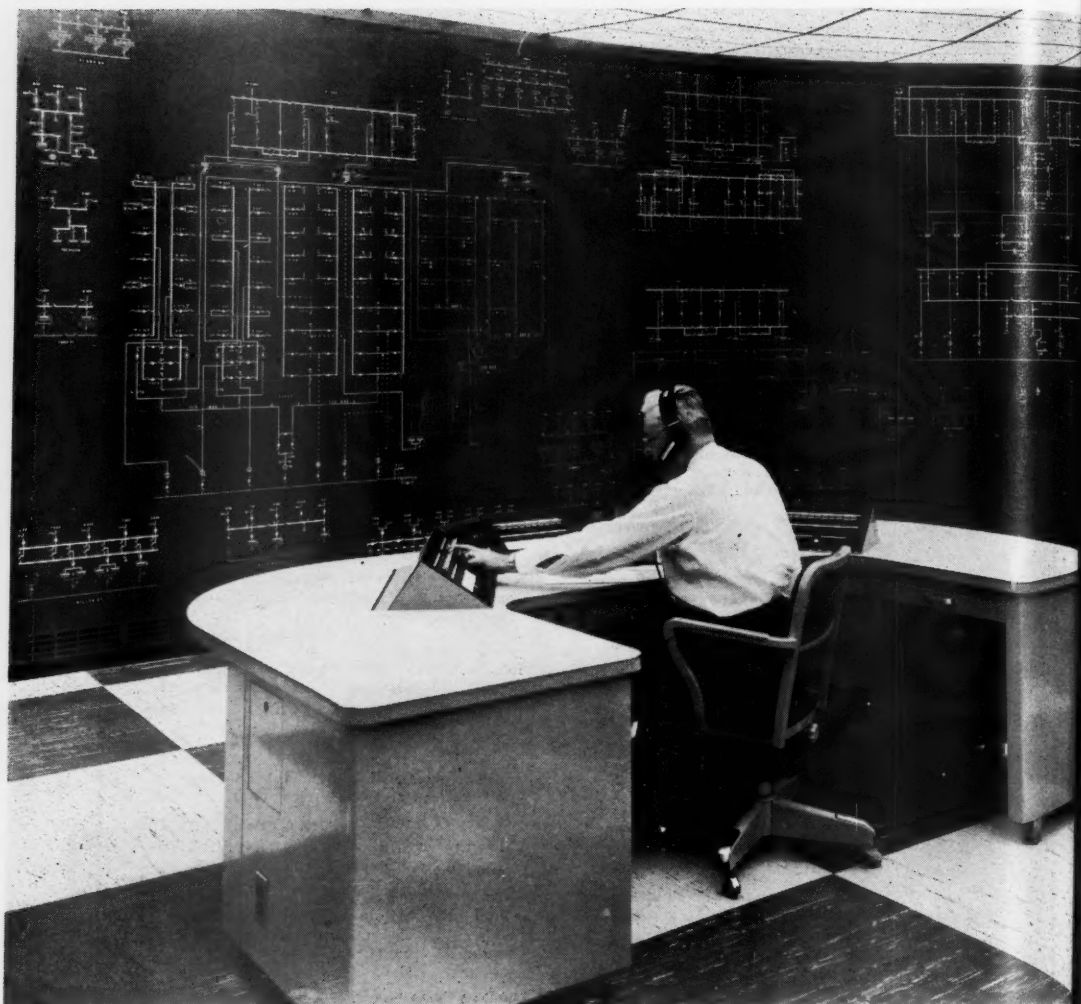
332 Pennsylvania Building

Washington 4, D. C.

Utilities Events Calendar

CHECK THESE DATES:

- Aug. 8-12—American Institute of Electrical Engineers will hold Pacific general meeting, San Diego, Cal.
- Aug. 15-17—Alaska Telephone Association will hold annual convention, Sitka, Alaska.
- Aug. 15-17—Heat Transfer Conference and Exhibit will be held, Buffalo, N. Y.
- Aug. 15-26—Summer Institute will be held on principles of nondestructive testing, Sacramento State College, Sacramento, Cal.
- Aug. 22-26—Western Resources Conference will be held, University of Colorado, Boulder, Colo.
- Aug. 23-26—Western Electronics Show and Convention will be held, Los Angeles, Cal.
- Aug. 29-31—Appalachian Gas Measurement Short Course will be held, University of West Virginia, Morgantown, W. Va.
- Aug. 29-Sept. 2—American Bar Association will hold annual meeting, Statler-Hilton Hotel, Washington, D. C.
- Aug. 26-31—ABA, Section of Corporation, Banking and Business Law, will hold meeting, Shoreham Hotel, Washington, D. C.
- Aug. 27-30—ABA, Section of Administrative Law, will hold meeting, Willard Hotel, Washington, D. C.
- Aug. 28-31—ABA Section of Mineral and Natural Resources Law, will hold meeting, Sheraton-Carlton Hotel, Washington, D. C.
- Aug. 28-31—ABA, Section of Public Utility Law, will hold meeting, Shoreham Hotel, Washington, D. C.
- Sept. 1-2—Edison Electric Institute, Street and Highway Lighting Committee, will hold meeting, Salem, Mass.
- Sept. 1-2—Southeastern Electric Exchange, Personnel Administration Section, will hold meeting, Roanoke, Va.
- Sept. 7-8—Tennessee Telephone Association will hold annual convention, Nashville, Tenn.
- Sept. 7-9—American Water Works Association, South Dakota Section, will hold annual meeting, Watertown, S. D.
- Sept. 7-9—Association of Illinois Electric Co-operatives will hold annual meeting, Springfield, Ill.
- Sept. 7-9—Joint Automatic Control Conference will be held, Massachusetts Institute of Technology, Cambridge, Mass.
- Sept. 7-9 — Northwest Electric Light and Power Association will hold annual meeting, Glacier, Mont.
- Sept. 7-10 — Rocky Mountain Electrical League will hold annual fall conference, Denver, Colo.
- Sept. 10-11—American Society of Mechanical Engineers will hold international air pollution congress, New York, N. Y.
- Sept. 10-18—Electrical Living Show will be held, New York Coliseum, New York, N. Y.
- Sept. 11-16—Illuminating Engineering Society will hold national technical conference, Pittsburgh, Pa.
- Sept. 12-13—Arkansas Telephone Association will hold annual convention, Hot Springs, Ark.
- Sept. 12-13—Michigan Telephone Association will hold annual convention, Mackinac Island, Mich.
- Sept. 12-13—New England Gas Association will hold gas utility managers' conference, Wianno Club, Mass.
- Sept. 12-14—American Gas Association will hold accident prevention conference, Minneapolis, Minn.
- Sept. 12-14—American Water Works Association, Kentucky-Tennessee Section, will hold meeting, Knoxville, Tenn.



Courtesy, Public Service Electric & Gas Company

Through the Small and Lonely Hours of the Night

This load dispatcher and two others preside over a remote control system that, along with one other, regulates the output of more than 2.8 million kilowatts of electricity of the Public Service Electric & Gas Company of Newark, New Jersey.

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Public Utilities

FORTNIGHTLY

VOLUME 66

AUGUST 4, 1960

NUMBER 3



The Relation between a Fair Return and the Rate Base

By JOHN H. BICKLEY*

A fair percentage rate of return on the fair value of utility property cannot be determined independently of the amount of fair value and how it is measured. . . . The cost of money is an important consideration in a determination of a fair return, but should not be the sole test of reasonable earnings.

IN a case involving the rates and charges of a public utility, the supreme court of Texas, in *Texas Railroad Commission v. Houston Natural Gas Corp.* 13 PUR3d 90, 289 SW2d 559, 575, decided May 9, 1956, "concluded that there are two genuine issues of material fact. . . . They are:

"(1) What is the fair value of the company's property used and useful in servicing the city of Alvin?

"(2) What is the lowest composite percentage rate of return which will induce the investment of adequate capital?"

The two issues are inseparable. The percentage rate of return must be determined in reference to a fair value rate base, for the rate is one that pertains only to the fair value of the property, and not to property as measured in any other way, such as depreciated original cost or reproduction cost new less depreciation. The fair value of property should and can be determined independ-

*Utility consultant, Skokie, Illinois. For additional personal note, see "Pages with the Editors."

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ently of the rate of return, but the percentage rate cannot be determined independently of fair value. That is, there is not a certain percentage rate that can be associated with any kind or amount of rate base.¹ Nor can the rate of return be ascertained directly. It must be based upon the relationship between fair value and other values or costs, just as the fair value of the property itself must be compounded from certain property costs and values, especially original cost and reproduction cost, after deduction of depreciation in each instance.

How is the answer to the second issue to be found? The court indicated a way. It said:

The fixing of the percentage return necessary to induce capital is regarded as a fact question to be determined upon evidence from the stock market and from investment experts.

Reference to the stock market may be assumed to cover the security and money markets generally, for the funds at the disposal of a company would come from bonds and other forms of debt, including bank credit, as well as from stocks and retained earnings.

Evidence of the Security Markets

BUT is the evidence to be gained only from the markets for the securities of the utility whose rates and charges are under review, or is it to be gained from the markets for the securities of both that company and other companies

engaged in the same kind of business? Since a rate case involves the rates of a particular company, it might seem that consideration of the security markets should be confined to the markets for that company's securities, although this would preclude other pertinent and useful information.

However, the court referred, with apparent approval, to a writer who "pointed out why the percentage rate of return ought to be keyed to the current 'going price' of utility capital in the money markets." This would open the door to consideration of the security and money markets generally for utility funds. The court observed earlier in the decision: "The courts have generally said that a percentage of return substantially below the going market for that type of capital is confiscation." From these statements, it might be inferred that the rate of return must be based on current market prices and yields. But if the rate is determined in this manner, it is not likely to be the correct one.

WHAT is meant by the current going price of utility capital? The price of capital is determined by the yields received by investors, or by the costs incurred by issuers of securities. But such prices for capital depend in part on the prices of securities. For this reason, attention must be given first to security prices. Does the current going price mean either spot prices on a certain date or average prices over a short period of time, such as a month? These prices, especially of common stock, may change rapidly.

Even though the rate base is determined as of a given date, security prices and resulting yields or costs on that date may

¹ See Illinois Commerce Commission, *Re Iowa-Illinois Gas & Electric Co.* 26 PUR3d 369, 382-3, decided December 22, 1958.

THE RELATION BETWEEN A FAIR RETURN AND THE RATE BASE

not be representative of prevailing prices. Moreover, since security prices and yields are used to determine a fair rate of return, which is for the future, it may be more reasonable in some periods to use average prices for one, two, or three years.

Security Markets Reveal Two Things

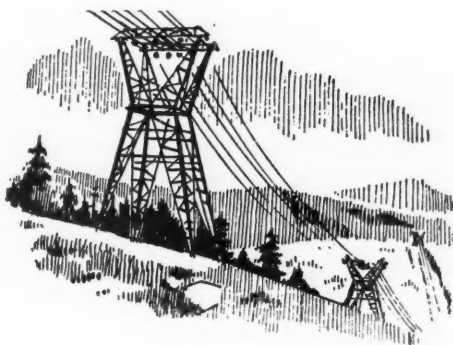
MORE specifically, two kinds of evidence are to be found in the security markets, one relating to sales of new and additional securities, and the other relating to market trading in already outstanding securities. There can be ascertained the prices and the net proceeds at which a company has sold its bonds, and especially those for new money. When an issue calls for new money only, the cost to the utility of the bond issue can be computed readily from the net proceeds per \$100 principal amount in relation to the coupon rate of interest and the period to maturity. The effective dividend rate on sales of preferred stock by a company can be computed in much the same way; that is, by the net proceeds per share divided into the annual dividend per share.

The problem in the case of common stock is somewhat more difficult, and a discussion of this subject will be deferred until later. But it must be noted at this time that the effective bond interest rates and preferred dividend rates, as computed in the manner explained, are computations of the *actual* or *historical* cost of money to a company and are not necessarily, or even usually, the current cost, except that it is the current cost at the time securities are sold. And, the historical cost of money is not indicative of a fair rate of return on the present fair

value of property, unless fair value is equal to the depreciated actual or original cost of property.

THE same kind of information will be available also for new security sales by other companies, particularly in recent years, and generally it will be available for securities having the same quality ratings as the securities of the company whose rates are at issue.

In the second category, there can be determined the current prices and yields at which the outstanding bonds and preferred stocks of a company are bought and sold. For the common stock of a company, there can usually be ascertained the daily market prices of the stock, the volume of trading, the current earnings, the current dividend rate, and the book value in relation to the market price of the stock. There can be ascertained also the same kind of information on the market trading in the securities of other companies. It is essential to realize that interest and dividend and earnings yields based on current market trading in securities are *current* costs and yields which may not be used in connection with either the fair value of a utility's property or the de-



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preciated original cost, unless fair value or original cost is equal to the value of the property based upon the market prices of the securities, which is highly improbable. But such current cost of money may be considered in connection with depreciated reproduction cost as a measure of current cost of property.

How Can We Use These Data?

ALL of this information on security sales, market prices, costs, and yields is useful, but must be used in a discriminating way, which sometimes is not the case.

Another and extremely important question is presented. What sound and logical use can be made of information provided by the security and money markets? What is sound and logical should be, and is, susceptible of demonstration.

The evidence of the security markets is first and directly that of security prices, whatever may be the reason or reasons for the prices. From these prices, there can be computed interest yields on bonds, dividend yields on preferred stock, and dividend and earnings yields on common stock. Since price, together with coupon rates and period to maturity, in the case of debt, and dividends and earnings in the case of stock, is used to measure the composite rate on invested capital, how can market price be used in connection with the fair value of a company's property used and useful in public service? The significance of this question becomes apparent immediately when there is recognized the fact that the aggregate market value of securities may, and probably will, be different from the fair value of the property. That is, the yields or costs

computed from market prices are not based on fair value. Hence, a fair rate of return cannot be determined independently of fair value or until that value is found.

But there is a logical way in which a composite rate based on the security markets can be converted or equated to a composite rate on fair value. If not so converted, a rate of return predicated on market prices of securities will, in all probability, be inequitable, as will now be shown.

Current Price of Utility Capital And Fair Value

To determine the current composite rate on securities, there will be assumed, in the case of bonds and preferred stock, the costs on net proceeds realized by issuing companies on recent sales of securities for new money. During the three years 1956-58 there were 92 issues of Aa electric utility bonds for new money,² having an aggregate principal amount of about \$2.3 billion.³ The average cost to the issuing companies, at net proceeds after deduction of expenses of issuance, was 4.32 per cent. This could be taken as the current market rate on electric utility bonds of the same quality rating. During the same period, there were 48 issues of electric utility preferred stocks having an aggregate stated value of \$518.2 million.⁴ The effective dividend rate was 4.96 per cent, which could be taken as the current rate on preferred stock.

For common stock, the current market

² Rating by Moody's Investors Service.

³ Ebasco Services Incorporated, "Analysis of Public Utility Financing."

⁴ *Ibid.*

THE RELATION BETWEEN A FAIR RETURN AND THE RATE BASE

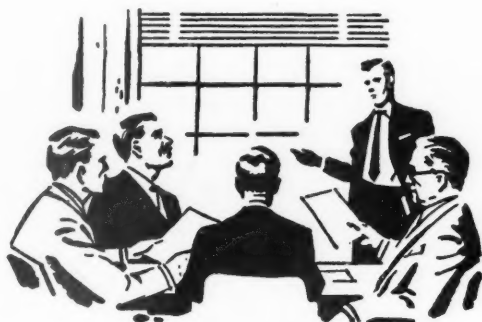


TABLE 1
CURRENT COMPOSITE RATE ON INVESTED CAPITAL

<i>Invested Capital</i>	<i>Book Value</i>	<i>Market Price</i>	<i>Market Value</i>	<i>Current Rate</i>	<i>% of Total Invested Capital</i>	<i>Weighted And Composite Rate</i>
Bonds, 4.32%	\$ 5,000,000	100.00	\$ 5,000,000	4.32%	50%	2.16%
Preferred stock, 10,000 shares	1,000,000	100.00	1,000,000	4.96	10	0.50
Common stock, 200,000 shares	4,000,000	40.00	8,000,000	6.75*	40	2.70
Totals	\$10,000,000		\$14,000,000		100%	5.36%

*Based on earnings of \$2.70 per share.



rate will be based on recent prices and earnings of the company under review. The average market price for a period of three years will be assumed to be \$40 per share and the average earnings per share to be \$2.70. The earnings-price ratio, or ratio of earnings per share to price per share, would be 6.75 per cent. The average book value per share will be assumed to be \$20.

IF an electric utility had outstanding \$5 million of bonds, \$1 million of preferred stock, and \$4 million of common stock, including retained earnings, the current composite cost or rate on invested capital would be 5.36 per cent, as shown by Table 1 above.

It should be pointed out that the composite rate of 5.36 per cent is based upon the percentage distribution of invested capital at book values. If the distribution were based upon market values, the composite rate would be 5.75 per cent. The latter method is unsound, because any difference between the current cost of capital and the historical cost should be due solely to changes in the money markets and money rates. The historical cost of capital would be computed from the percentage distribution of capital actually invested. The same 5.75 per cent composite rate would result if there were computed, as the total dollar cost, annual interest at 4.32 per cent on bonds, annual dividends at 4.96 per cent on preferred

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stock, and annual earnings at \$2.70 per share on common stock, which would be a total of \$805,600, in relation to the market value of \$14 million. Thus, the earnings computed in this manner would give the same percentage cost as when the capital structure is altered to conform to the market value of securities.

Three important conditions may be noted from Table 1. *First*, the book amount of securities, which represents the investment in property, less related reserves, is \$10 million. *Second*, the market value of the securities of \$14 million is 1.4 times the book value, and all of the difference is in common stock, the market value of which is twice the book value. *Third*, the composite yield or rate on invested capital is 5.36 per cent; but this is not likely to be the necessary rate or fair percentage return on the fair value of the property.

A Practical Example

It will be assumed next that the fair value of the utility property is found to be \$12.5 million. To simplify the problem, it will be assumed further that liabilities and other balance sheet credits, exclusive of securities and plant reserves, are equal to, and therefore offset, the assets other than utility property. In this event, the book value of the utility property would be \$10 million, or an amount equal to invested capital. The aggregate market value of \$14 million would be comparable to the fair value of \$12.5 million. If the composite rate of 5.36 per cent were related to the fair value of \$12.5 million, the earnings would be \$670,000. But the yield of 5.36 per cent relates to the market value of \$14 million,

since this yield is derived from market prices. The earnings on the \$14 million would be \$750,400, which would be 6 per cent on the fair value of \$12.5 million.

As seen from the foregoing, for a rate of return, based upon the stock and other security and money markets, when applied to the fair value of the property, to yield the same dollar amount of earnings as the rate applied to the market value of the securities, the fair value of the property and the aggregate market value of the securities must be the same, after the latter is adjusted for net assets or net liabilities not related to the rate base. If market value exceeds fair value, a percentage rate of return based on market prices would, when applied to fair value, yield a smaller amount of return than the dollar return based on market value. If fair value exceeds market value, there would be a larger dollar return than that based on market value. Therefore, it becomes necessary to adjust the "current going price of utility capital" for the difference between the value of the property based on the market prices of securities, and the fair value of the property. Since the market value, in Table 1, is 1.12 times the fair value, the composite market rate of 5.36 per cent must be multiplied by 1.12, and the composite rate applicable to fair value is 6 per cent.

By the method illustrated, the dollar amount of return would be determined by market prices and yields on securities. Consequently, whatever the fair value of the property might be, the dollar amount of earnings would be the same, but the percentage rate of return would vary according to the relationship between the value of the property based on the market

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prices of securities (the basis for the current rate) and the fair value of the property.

Try It This Way

ANOTHER method may be employed, by which the dollar return is not fixed by the current rate in relation to the total market value of securities. The difference between the market value of the securities (\$14 million) and the fair value of the property (\$12.5 million) is reflected in the value of common stock.

If the fair value of \$12.5 million were substituted, in Table 1, for the market value of \$14 million, the value of the common stock, based on fair value, would be \$6.5 million, or \$32.50 per share. With earnings of \$2.70 per share, the earnings-price ratio, or cost of common stock, would be 8.31 per cent. The same cost is obtained when the common stock current rate of 6.75 per cent is multiplied by the ratio of the market value of the stock (\$8 million) to the value based on fair value (\$6.5 million). The weighted cost of the stock would be 3.32 per cent. When to this are added the weighted costs of bonds and preferred stock, totaling 2.66 per cent, there is found a composite cost of 5.98 per cent that would be applicable to the fair value of \$12.5 million. The

dollar return of \$747,500 would be slightly less than the \$750,400, previously mentioned.

Need for Determinations of Historical Cost and Current Cost of Invested Capital

WHILE the current going price of utility capital should have a place in the determination of a fair return, it should not be the sole factor. A better method is available. The two important factors from which the fair value of utility property is determined are the original cost and the reproduction cost, less depreciation in each instance. And, just as there is an original, or historical, cost of property, and a current, or reproduction, cost, so is there an actual or historical cost of invested capital and a current cost. The historical cost of capital should be related to the historical or original cost of property, and the current cost of capital should be related to the current or reproduction cost of property.

The historical costs of debt money and preferred stock are not generally difficult to measure, especially in connection with new money issues currently outstanding. The net proceeds realized by a company, after expenses of issuance, related to the nominal interest or dividend rate, and taking into account the period to maturity,



TABLE 2
HISTORICAL COST OF INVESTED CAPITAL

<i>Invested Capital</i>	<i>Principal Or Stated Amount</i>	<i>% of Total</i>	<i>% Cost</i>	<i>Weighted And Com- posite Cost</i>
Bonds	\$ 5,000,000	50%	3.40%	1.70%
Preferred Stock	1,000,000	10	4.40	.44
Common Stock	4,000,000	40	13.75	5.50
Totals	\$10,000,000	100%		7.64%

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in the case of debt, will give the percentage cost. Refunding issues currently outstanding require further analysis. But in any case, the first problem is to determine the amount of funds the company has received, represented by outstanding securities, and taking into account unamortized discounts, premiums, and expenses on issuance of securities and call premiums and expenses on redemptions through refunding.

A MEASUREMENT of the historical cost of common stock is somewhat more difficult, and a suitable basis must be found. Just as earnings are used to measure the current cost of common stock, so may they be used to measure the historical cost. There is one requisite. All shares of common stock, as outstanding historically from year to year, must be of the same kind. A share having a present book value of \$20 is not the same as a share in the past that had a book value of \$10. And earnings of \$1 per share on a \$20 share are not the same as earnings of \$1 per share on a \$10 share. Hence, all shares of the past and the present must be converted to a uniform book value per share. This is accomplished by dividing the current book value per share into the total book value at the end of each prior year to determine the number of uniform shares, or shares of a constant book value, at the close of each year.

There should be determined also the average number of uniform shares outstanding each year, by dividing the current book value per share into the average total book value of each year. The average shares of each year, all on a uniform basis, divided into the annual earnings on common stock, give the earnings per uniform

share. The increase in uniform shares from year to year multiplied by the earnings per share will give the cost of additional equity capital of each year. The aggregate of these annual costs divided by the total book value of the stock at the date of the cost determination will give the percentage cost, exclusive of expenses of issuance, for which an allowance should be made.

AN objection might be raised to this method, because it is based, in part, on past earnings on stock. But if the objection is valid, it must be raised also against the measurement of the current cost of common stock by the use of earnings-price ratios or by the use of dividend yields adjusted for dividend pay-out, which is the same as an earnings-price ratio. Earnings are used to measure the current cost, and correctly so. Consequently, past earnings may be used to measure past or historical cost.

The method for calculation of the historical cost of common stock is different conceptually from the average percentage earned on the stock, even though there may not be much difference in the percentages. The average percentage return is not acceptable, because a cost would be attributed to capital invested and reinvested through retained earnings in those years in which there were no increase in the book value of stock, and even though there were a decline in book value.

The percentage cost of each segment of invested capital, multiplied by the percentage of each segment to the total, will give the weighted cost. The total of these weighted costs will give the composite or total historical cost of capital. Since this is the historical cost, it may be used only

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in connection with the historical, or actual, cost of property. It is not applicable to either fair value or depreciated reproduction cost.

For later reference and comparison, it will be assumed that the historical cost of invested capital is as shown by Table 2, page 151.

THE current cost of invested capital may be measured by the procedure already explained. The current composite rate in Table 1 is 5.36 per cent. However, since the current cost is to be used in connection with the reproduction cost of property, which would require larger volume financing than reflected in the 5.36 per cent, an additional allowance should be made for this circumstance, and also for flotation costs in the case of common stock. Nevertheless, in the ensuing discussion, the current rate indicated will be used.

It should be observed that the market prices of common stock used to measure the current cost of such stock will reflect, in many instances, expectations of higher earnings and dividends in the future. If it were not for such expectations, com-

mon stocks would not sell at lower yields than those on bonds and preferred stocks. Nevertheless, if new issues of common stock are sold at low dividend and earnings yields, because of expectations of higher earnings and dividends, the cost of the stock is established when new money is obtained, regardless of what accounts for the prices realized and regardless of whether investors are right or wrong in their expectations. The use of current market prices on outstanding stock, adjusted for flotation costs and volume financing, is a means of estimating the price that would be realized if sufficient stock were sold to finance the property at reproduction cost.

IF, however, a company were limited to an overall return that would provide for the common stock a return equal only to the current earnings-price ratio, and in which the price is affected materially by expectations of higher earnings and dividends, it might be concluded that the market price of the stock would fall, and the cost of capital would automatically rise. This could be true, depending upon the kind of property base to which the return

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is related. But since the current cost of capital would be related to the depreciated reproduction cost of property, which currently would be higher than depreciated original cost, it does not follow that the price of the common stock would decline, because the earnings on the stock might be as high as those expected and reflected in market price.⁵

Two Basic Return Costs Available

Two basic composite costs, or rates, for invested capital are now available for a measurement of the return on the fair value of the property; namely, the 7.64 per cent historical cost and the 5.36 per cent current cost. For these two basic rates to yield the same dollar amount of return, the net reproduction cost of property must bear the same relationship to the net original cost as the historical cost of capital bears to the current. For example, if the original cost of property were \$10 million, the reproduction cost would have to be \$14,253,731, or $(7.64 \div 5.36)$ times \$10 million. This would be extremely fortuitous.

Nevertheless, the two rates can be used to arrive at a percentage rate on fair value. This would be accomplished by applying the 7.64 per cent to the depreciated original cost, assumed to be \$10 million, and the 5.36 per cent to the depreciated reproduction cost, assumed to be \$15 million. The resulting dollar returns of \$764,000 and \$804,000, respectively, would be given the same weighting as the original cost and the reproduction cost of property in arriving at fair value. If fair value were midway between original cost and repro-

duction cost, the dollar return would be \$784,000, which would be 6.27 per cent on the fair value of \$12.5 million.⁶ This would compare with 6.50 per cent if equal weighting were given to the two rates of 7.64 per cent and 5.36 per cent. If 6.50 per cent were used as the rate of return, the dollar amount would be \$812,500, or 3.6 per cent more.

IN the foregoing illustration of the dollar return resulting from the application of the current cost of capital to the reproduction cost of property, no adjustment of the current rate of 5.36 per cent is made for the difference between the value of the property based on the market prices of securities (from which the current rate is derived) and the reproduction cost. Since the difference is reflected in the value of common stock, the cost of the stock, 6.75 per cent, must be adjusted.

If the reproduction cost of \$15 million were substituted for the market value of \$14 million, in Table 1, the value of the common stock would be \$9 million, or \$45 per share. With earnings of \$2.70 per share, the earnings-price ratio on the common stock would be 6 per cent, instead of 6.75 per cent. The composite cost of capital applicable to reproduction cost would be 5.06 per cent, and the dollar return on \$15 million would be \$759,000. If this were weighted equally with the dollar return of \$764,000 on original cost, the resultant dollar return of \$761,500 would be at a rate of 6.09 per cent on the fair value of \$12.5 million.

⁵ See PUBLIC UTILITIES FORTNIGHTLY, August 28, 1958, pp. 324, 325, "The Market Price of Capital," by W. T. Hyde, Jr.

⁶ The same dollar return is obtained by multiplying the weighted amount of original cost by the historical cost of capital and the weighted amount of reproduction cost by the current cost of capital and adding the two figures on return.

THE RELATION BETWEEN A FAIR RETURN AND THE RATE BASE

HOWEVER, if the value of common stock at reproduction cost were less than the market value, rather than more, the composite rate applicable to reproduction cost would be higher. Thus, if reproduction cost were \$13 million, the value of the common stock on that basis would be \$7 million or \$35 per share. With earnings of \$2.70 per share, the cost of the stock would be 7.71 per cent, and the weighted cost would be 3.08 per cent. The composite rate would be 5.74 per cent, which, applied to reproduction cost, would give a return of \$746,200. When the dollar returns on reproduction cost and on original cost are weighted equally, the return on fair value, which then would be

\$11.5 million, instead of \$12.5 million, would be \$755,100, or 6.57 per cent.

Cost of Capital Not Necessarily A Fair Return

WHAT is the lowest rate of return that will induce the investment of adequate capital? This may be a difficult question to answer. But why the "lowest"? This implies that the lowest rate that will induce capital is a fair and reasonable rate. This is not essentially so, for capital attraction would be made the final test of reasonable earnings. However, it would appear that when the return is based upon consideration of the historical cost of capital and the current cost in relation to the



TABLE 3
AVERAGE PER CENT YIELDS ON INVESTMENTS IN COMMON STOCKS AT
AVERAGE MARKET PRICES OF YEARS 1935, 1940, AND 1945 AND HELD
THROUGH THE YEAR 1957
INDUSTRIALS, ELECTRIC UTILITIES, AND AMERICAN TELEPHONE AND
TELEGRAPH COMPANY IN CURRENT DOLLARS

	22 Years 1936-57	17 Years 1941-57	12 Years 1946-57
A. Average yields based on earnings:			
Industrials (125 Companies)	17.75%	19.62%	17.59%
Electric Utilities (24 Companies)	8.27	9.24	10.23
American Telephone and Telegraph Company ..	8.10	6.25	6.19
B. Average yields based on sum of increase in market price and earnings:			
Industrials	34.90	40.33	36.48
Electric Utilities	11.99	14.70	17.57
American Telephone and Telegraph Company ..	9.78	6.52	6.09
C. Average yields based on dividends:			
Industrials	9.67	10.45	9.13
Electric Utilities	6.21	6.75	7.27
American Telephone and Telegraph Company ..	7.12	5.44	5.15
D. Average yields based on sum of increase in market price and dividends:			
Industrials	26.82	31.17	28.02
Electric Utilities	9.93	12.21	14.61
American Telephone and Telegraph Company ..	8.80	5.71	5.05

Note 1: Earnings of American Telephone and Telegraph Company are consolidated earnings of that company and its principal telephone subsidiaries.

Note 2: When yield based on sum of increase in market price and earnings or dividends is higher than yield based on earnings or dividends, there is indicated an increase in market price from the initial year (1935, 1940, or 1945) to 1957.

Source of basic data, *Moody's Investors Service*

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depreciated original cost of property and the depreciated reproduction cost, respectively, such return should be the minimum, if it is economically and financially feasible and expedient to earn that return.

Although the subject will not be given the attention it merits, the bare cost of capital will not necessarily provide just compensation, for several reasons. *First*, the composite percentage rate, derived from the component costs, may, and in most cases probably will, yield only an amount that barely avoids confiscation. A fair return may reasonably be higher.⁷

Second, although Mr. Justice Brandeis, the great proponent of prudent investment, said that "the cost to the utility of the capital . . . should measure the rate of return which the Constitution guarantees an opportunity to earn," he defined capital charges as "the allowance . . . for the use of capital; . . . the allowance for the risk incurred; and enough more to attract capital." An allowance is not essentially the same as cost. Justice Brandeis added that a reasonable rate "may allow an efficiently managed utility much more" than the capital charges.

THIRD, the cost of capital makes no allowance for inflation, and the real income of a business may decline even though the dollar amount rises. Investors in the common stocks of industrials have had substantial protection against inflation; investors in the shares of public utilities have had much less, as shown by Tables 3 and 4, pages 155 and 157. Industrials have been able to increase prices and earnings in order to counteract to a con-

siderable degree the erosion caused by inflation.

Fourth, the cost of capital makes no allowance for the attrition in earnings that generally accompanies a rapid expansion of plant facilities at rising costs, which has been characteristic of utilities in recent years.

Fifth, utilities are not recovering the full cost of service, by reason of the fact that annual depreciation charges do not keep intact the dollars invested in depreciable plant. Manufacturing companies recover their investment in property, through depreciation charges, more rapidly than do utilities, and larger earnings have made possible larger additions to surplus out of which to finance more of the dollars required for replacements of and additions to productive property.

Capital Attraction

CAPITAL attraction is always a desirable test of reasonable earnings; but it has its uncertainties and limitations. The subject cannot be discussed at length here. But almost any going concern, and even some that are not yet going, can raise capital in some form or at some promised price. Companies on the verge of receivership, and even in that state, have been able to obtain capital. Stocks have been sold with only a hope of a return. A public utility that is earning what may be clearly a confiscatory return may be able to obtain additional and adequate funds, especially borrowed money, if at the time it has only a small or no funded debt. Even though this condition could not long continue, it indicates the difficulties and limitations inherent in the capital attraction theory.

⁷ *Banton v. Belt Line R. Corp.* (1925) 268 US 413, 423, PUR1926A 317.

THE RELATION BETWEEN A FAIR RETURN AND THE RATE BASE

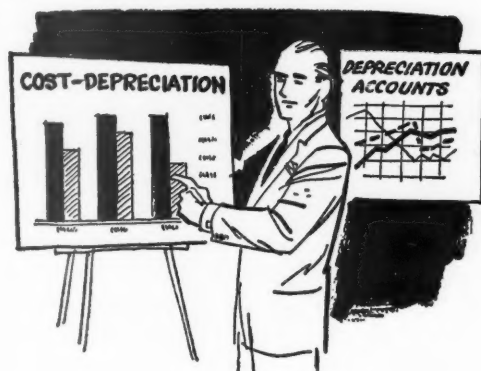


TABLE 4

AVERAGE PER CENT YIELDS ON INVESTMENTS IN COMMON STOCKS AT
AVERAGE MARKET PRICES OF YEARS 1935, 1940, AND 1945 AND HELD
THROUGH THE YEAR 1957
INDUSTRIALS, ELECTRIC UTILITIES, AND AMERICAN TELEPHONE AND
TELEGRAPH COMPANY IN CONSTANT DOLLARS (INITIAL YEAR AS 100)

	22 Years 1936-57	17 Years 1941-57	12 Years 1946-57
A. Average yields based on earnings:			
Industrials (125 Companies)	10.87%	11.49%	12.38%
Electric Utilities (24 Companies)	5.51	5.66	7.30
American Telephone and Telegraph Company ..	5.66	3.95	4.42
B. Average yields based on sum of increase in market price and earnings:			
Industrials	16.92	18.86	21.48
Electric Utilities	5.00	5.42	8.98
American Telephone and Telegraph Company ..	4.15	1.14	1.37
C. Average yields based on dividends:			
Industrials	6.05	6.17	6.40
Electric Utilities	4.26	4.17	5.17
American Telephone and Telegraph Company ..	5.06	3.50	3.72
D. Average yields based on sum of increase in market price and dividends:			
Industrials	12.10	13.54	15.50
Electric Utilities	3.75	3.94	6.85
American Telephone and Telegraph Company ..	3.55	0.69	0.66

Note 1: Consumers Price Index of United States Department of Labor was used to deflate average market price in 1957 and earnings and dividends per share of each year of respective periods.

Note 2: When yield based on sum of increase in market price and earnings or dividends is less than yield based on earnings or dividends, there is indicated a decline in market price from the initial year (1935, 1940, or 1945) to 1957, deflated.



Moreover, the ability to attract capital must mean the ability to do so in the future. But the future is unknown and therefore uncertain. A commission might arrive at a return which at the time of deci-

sion probably would be sufficient to attract capital. But conditions may change rapidly. The estimated earnings may not be realized. Even though they are, the money markets may change and the cost of capi-

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tal may rise. Money would not be forthcoming at the rates expected.

Risk as a Factor in Fair Return

THE Alvin decision makes no direct reference to risk, a factor referred to frequently by the United States Supreme Court, state courts, and regulatory agencies. Although the subject is a complex one, it deserves consideration. And, in spite of their alleged "monopolistic" position, public utilities may have a substantial degree of risk. There is evidence that they do. In any event, no business enterprise is without risk.

Summary and Conclusions

A FAIR percentage rate of return on the fair value of utility property cannot be determined independently of the amount of fair value and how it is measured.

The current going price of utility capital in the money markets cannot be related to the fair value of property when such value is different from the market value of the securities from which the current price of utility capital is derived.

A determination of a fair rate of return requires determinations of the actual, or historical, cost of invested capital, and the current cost. The former should be used in connection with the depreciated original cost of property, and the latter in connection with the current, or depreciated reproduction, cost.

Whatever weighting is given to net original cost and depreciated reproduction cost, in arriving at fair value, should likewise be given to the dollar amounts of return based upon the actual cost of invested capital and the current cost.

THE cost of money is an important consideration in a determination of a fair return, but should not be the sole test of reasonable earnings.

While the ability to attract capital is always a necessary consideration in connection with allowable earnings, it has serious limitations. The subject should be approached with full knowledge of the pitfalls.

A fair return may reasonably be above the bare cost of money and above that which barely avoids confiscation.

"WE have come a long way down the wrong road when those who need controlling dictate not only the terms, but write the language of the terms under which they are going to operate. . . . Ultimately the public faith in government is destroyed, and in the chaos that follows, the people willingly accept a dictator. The price they pay is their liberty. And I say to you the hollowest phrase we hear today is the one that declares, 'It can't happen here.' But look around you today. Have you ever seen such outrageous taxation, such a staggering national debt, such a waste of public money, such a pyramid of government subsidies, dangerous inflation, so many lavish political promises, such a gigantic federal bureaucracy, so much government favoritism to special groups, such moral laxity, and so little responsibility in public life?"

—BARRY GOLDWATER,
U. S. Senator from Arizona.

How a City Changed Its Mind

By RUBY PROCTOR*



There was a 9-to-5 preference in Gary, Indiana, for the city taking over a privately owned water company. But a hard-hitting, organized public relations campaign changed public opinion. Every media and communications channel was used to spread the company story.

How adverse public opinion was changed in ninety days by a crash public relations program is the real story behind the victory for private enterprise in the Gary, Indiana, referendum of last February. Seldom has the political scene known such a definite and fast reversal of opinion as developed in the three-month intensive campaign. The story may be of value to other utilities.

The Gary-Hobart Water Corporation believed that if the people knew the facts they would vote against the city's effort to acquire ownership of the water utility. That was the stand on which the nine-year-old corporation battled for survival against apparently insurmountable odds.

*Assistant in public relations, Gary-Hobart Water Corporation, Gary, Indiana. For additional personal note, see "Pages with the Editors."

During the spring campaign of 1959, Mayor George Chacharis included in his platform proposed plans for taking over the water utility for the city, because, he said, water rates were too high.

Water corporation officials had not been overly alarmed. Take-over talk had long been an election year threat, but was forgotten after the voting. However, preliminary precautions were taken. The owners of the utility, the C. S. Mott family of Flint, Michigan, were apprised of the situation. The reaction was definite—"The utility is not for sale."

THE Gary-Hobart company then contacted Bozell & Jacobs, a public relations firm experienced in utility fights, and retained its services, awaiting develop-

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ments. The only steps taken between the May and November elections were a confidential opinion poll and a program of institutional newspaper and radio advertising that steered clear of the threatened controversy.

The results of the opinion poll conducted in mid-June were pessimistic. Sixty per cent of the people were critical of the water rates. Three to two were in favor of city ownership, although 39 per cent had no opinion on the issue. The interviewers noted frequent expressions of fear that harm would result from political control. This hint disclosed a weakness in the mayor's position and was later made a focal point of attack in the utility's campaign for survival.

In November the mayor was elected to office by the largest plurality ever recorded in the Steel City. He immediately announced that the city would proceed with legal steps to acquire the water utility. The announcement came at a psychologically bad time for the water company. A long, hot, dry summer had sent water consumption soaring to record-breaking heights. Because of the bimonthly billing, Gary residents were still remembering their high water bills and the mayor's promise of lower water rates was making an impact on the public. The Democratic precinct committeemen had no difficulty getting the signatures of 5 per cent of the registered voters as required by law to begin the legal process. The referendum date was set for February 16, 1960.

Public Relations Campaign Mapped

A SECOND opinion survey was conducted in late November and dis-

closed that the water corporation's position was even less favorable than in June. Sixty-six per cent of the people now were critical of water rates as compared with 60 per cent in June. Those who expressed a preference for city ownership of the utility amounted to 45 per cent as compared with 26 per cent favoring continued private ownership. The prognosis for the private utility looked bleak, but there was no choice except to fight.

A defensive campaign was charted. The utility's hopes were pinned to the belief that if the people knew the truth, the real reasons behind the acquisition effort, they would vote against it. It was the feeling of many that the city administration wanted to acquire the water system to provide more opportunity for patronage.

In his announcement of plans to take over the utility, the mayor listed eight reasons for his action. Everyone of his charges was countered with a factual statement that disproved or minimized his claim. The following list of charges and rebuttal formed the basic core of the controversy that raged for weeks in public debate on the air, on television, and in the press, as well as at private and public gatherings throughout the area:

CITY: Gary is one of the few cities in the state that does not own and operate its own waterworks.

UTILITY: Many of the larger cities in the state are served by privately owned water companies. In fact 40 per cent of the people who receive their water from a public supply in Indiana are served by privately owned utilities.

CITY: Gary consumers pay more for water than almost any other city in the

HOW A CITY CHANGED ITS MIND

state operating its own water department.

UTILITY: This is not true. The average monthly domestic water bill in Gary is only seven cents higher than the monthly average for all the 316 water utilities whose rates are on file with the public service commission of Indiana. But Gary has a much better than average water system. It has an unlimited supply of top-quality water, under good pressure, with adequate facilities to meet the demand and provide a comfortable margin of safety for the future. This is far more than the "average" water utility in the state can offer.

CITY: Both the city of East Chicago and the city of Hammond operate their own waterworks with the result that the water rates charged consumers are less than half those charged Gary residents. There is no reason why Gary consumers should pay twice as much for their water as the residents of East Chicago and Hammond. All three cities use water from Lake Michigan and all cost factors are the same.

UTILITY: The cost factors are not similar. Hammond's waterworks was constructed during the depression with PWA funds and WPA labor. The community's investment was relatively low considering the federal grants and the lesser costs in those days. Naturally, rates can be lower under such circumstances. In East Chicago water is regularly rationed during the summer months because the community has inadequate facilities to meet the demand.

This neighboring community is faced with the immediate necessity of expanding and modernizing the water system, and, of course, water rates will have

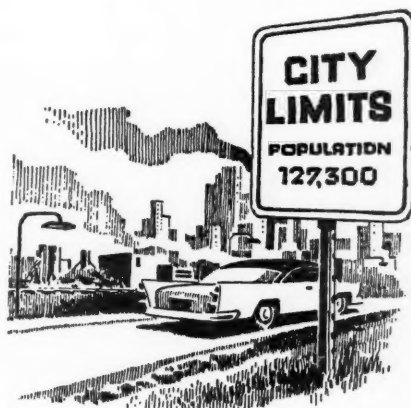
to be raised to pay for it. It means nothing to compare East Chicago and Hammond rates with those in Gary that were based on a fair return for an investment of several million dollars in a modern filter plant built at postwar prices.

Gary's water rates are higher, but there is good reason for it. Water has never been rationed in Gary. In East Chicago 50 to 60 per cent of the pumpage goes to industry. It is much less expensive to provide the large quantity of water and low service needs of industry than it is to provide domestic consumers with a water supply. In Gary only 25 per cent of the pumpage goes to industry.

In speaking of cost factors it should be noted that Gary's tax rate in 1959 was \$9.59, while Hammond's was only \$8.02, and East Chicago's \$6.32.

CITY: For some years the people of Gary have been rightfully complaining about the excessive water rates charged by the Gary-Hobart Water Corporation.

UTILITY: Some people will always complain about bills they have to pay,



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even for the most important commodity that comes into their homes. The average domestic consumer has a water bill of about 13 cents a day. There have been some complaints about water bills, but there have also been many expressions of praise and gratitude for the good quality water provided since the filter plant was constructed. For more than forty-five years Gary's water supply tasted and smelled badly and was cloudy with sediment. There were many complaints about the quality of the water. The city could have purchased the water system in 1951, but the city officials wanted no part of it then. Not until the present owners had poured millions of dollars into the water system, built a modern filter plant, and produced water of the finest quality, did the city decide it wanted to go into the water business.

CITY: We will put a stop to the never-ending treadmill of higher and higher water rates which have reached astronomical heights.

UTILITY: Actually local water rates have increased less than the general Consumers Price Index and less than the city tax rate. The three rate increases authorized by the PSC amounted to 118 per cent. These increases were necessary, not only to justify the investment of several million dollars to modernize the system and build a filter plant, but to adjust rates that had not been changed since 1912. The increase in the Consumers Price Index for the same period is 181 per cent, according to Department of Labor statistics. The tax rate in Gary in 1926 (the earliest record available) was \$3.41. In 1959 it was \$9.59, almost three times as much.

The PSC records show that many

municipal waterworks filed for and received rate increases in 1959. The record will also show that no water utility has been able to reduce rates since depression days.

CITY: Another rate increase is just around the corner.

UTILITY: This is not true. There are no present plans for seeking an increase. It is well to note that the slightly more than 5 per cent return realized annually has gone back into the business for improvement and expansion. The owners have never withdrawn a penny of profit from the corporation.

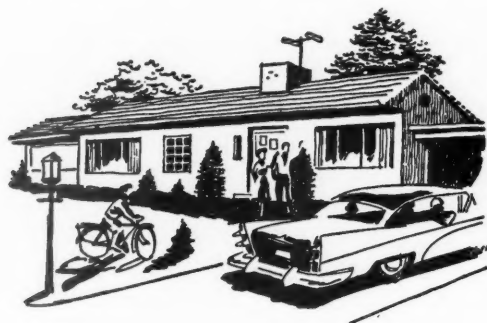
CITY: The property taxes paid by the water corporation will not be lost to the city under municipal ownership.

UTILITY: How does the mayor intend to manage this? Will the \$350,000 paid to local governmental agencies be prorated among property owners so that it will be paid in hidden taxes? Or does he think it can be paid to the city out of water revenue? This would not be legal. Indiana law permits only first-class cities to divert revenue funds in lieu of taxes under certain conditions. Indianapolis is the only city in the state that can do that.

CITY: The city maintains that under municipal control water rate increases will be a thing of the past and finally will be reduced.

UTILITY: We do not believe this would be possible. No waterworks in Indiana has decreased its rates in thirty years. In fact under city ownership rates would probably have to be raised in order to pay the annual amortization of revenue bonds. It is estimated that the final selling price of the utility would be between \$25 and \$30 million. The annual payment of

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interest and principal plus coverage charge would not permit the reduction of rates.

The bonding firm that advised the city to proceed with acquisition of Gary-Hobart Water Corporation will receive a fee of 2 per cent of the selling price if the action is successful. This will amount to more than \$500,000. What have they got to lose by giving such advice? The taxpayers of Gary will foot the bill and also the cost of the referendum.

Another factor of interest to realtors, contractors, and every home builder in the area, is that Gary-Hobart pays a part of the cost of extending mains into new subdivisions. A municipal waterworks pays no share of this expense.

No community can grow and develop without a sufficient supply of water and the necessary facilities to meet the demand. If Gary is to continue to grow, the waterworks must grow also. Would the city be able to finance major expansion within the next few years in order to meet the demands of this rapidly growing area? GHWC already has under way plans to build another filter plant which will be needed by 1965 if the community

is to continue to grow. It seems very unlikely that with the heavy load of bonded indebtedness the city could provide for more than ordinary service to Gary residents.

IN general, public ownership in Indiana has not promoted efficiency or economy in the waterworks industry. It is common knowledge in the state that every new city administration means a turnover in operating and executive personnel. This cannot be helped for there are no civil service or licensing laws governing the operation of waterworks in Indiana.

Private water utility personnel highly trained for their jobs set high standards of technical and administrative procedures for the industry. Waterworks under political control cannot hope to meet these standards.

True Story Widely Publicized

THESE facts formed the arsenal for the defensive battle. Over and over again they were presented to the public in different ways and by various media. Bozell & Jacobs prepared a series of newspaper ads proclaiming the above statements.

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They were all headed with the banner "So That You May Know the Truth." A campaign slogan was adopted, "Don't Muddy Gary's Water with Politics." It appeared as a part of every ad—on billboards, newspaper ad copy, and radio commercials. Repeated emphasis was placed on the \$500,000 that would go to the bonding firm as a fee for handling the deal if approved by the voters.

Corporation officials, unversed in political campaign strategy, stepped to the rostrum on scores of platforms to debate the issue with experienced politicians and to give over and over again the facts of why private ownership was better for the people. Many of these were broadcast over the local radio.

On an interview program televised on the Chicago outlet of the American Broadcasting Company, Leo Louis, manager of the utility, and Mayor Chacharis debated the issue. The public response exceeded any ever before received by the program. Comments on the Gary water issue poured into the studio from Illinois, Wisconsin, Michigan, and Indiana. Five to one were favorable to the privately owned utility.

GARY-HOBART employees rallied to the cause and worked hours and days of overtime in contacting friends and neighbors in an attempt to gain as many vote-no promises as possible. The local union of District 50 United Mine Workers of America pledged its support in service and funds. The president and secretary were released from utility duties and worked full time in helping to organize the employees' campaign and in contacting members of other unions in an effort to gain a share of the labor vote in Gary.

Over the signatures of these union officials post card appeals were sent to water customers asking their support at the polls. Because many voters are not water customers, employees worked overtime to personally deliver campaign literature to apartment houses in the community. Several newspaper ads, billboard signs, and many letters to the "Voice of the People" section of the daily paper added weight to the union's effort on behalf of the corporation.

Offsetting the support given the water utility by all UMWA locals was the fact that many city employees belonged to the Teamsters Union and various trade organizations. These made no public statements regarding the issue, but the powerful Steel Workers of America with 17,000 Gary members declared publicly for municipal ownership.

Newspapers and Radio Help

ONE of the first salvos fired in the campaign was by the editor of a chain of weekly newspapers that cover parts of Gary and its suburbs. He attacked the city's action in an editorial that gave a very sound analysis of the probable cost to the community if the take-over was accomplished. Throughout the campaign this editor struck many strong blows in the utility's favor. Some of his editorials were reproduced and mailed to all water customers.

The daily newspaper and leading radio station did an objective study of the issue. The *Gary-Post Tribune* sent a reporter to the Indiana Public Service Commission and to a score of cities around the state to investigate the relative value of privately owned and municipal water systems. A

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daily front-page story dealing with the results of the study claimed public attention for weeks. After this series the paper came out editorially in support of the utility.

Committees and Civic Groups Join Fight

RADIO editorials supporting GHWC were broadcast several times daily for many weeks. The station, WWCA, invited both the mayor and the manager of the utility to make use of its facilities on an equal time basis.

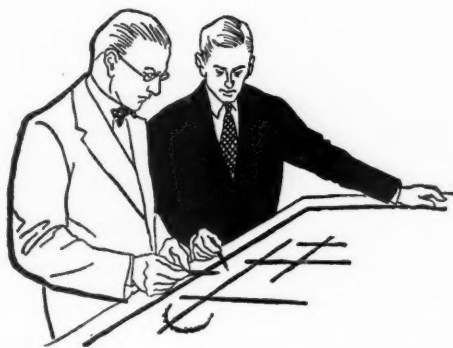
Of great value to the Gary-Hobart cause was a telephone committee consisting of about 100 women who had offered to assist in the campaign. A telephone directory was divided among them and each called an allotted number of names. They discussed the issue and sought an opinion from those contacted. A card file was kept of all who indicated a preference for private ownership. These citizens were contacted on referendum day to remind them of the issue at stake and to insure as many no-votes as possible. Some of the women refused payment for their help, others received an hourly wage rate for their services.

Another committee that carried the campaign banner for private ownership was "The Citizens' Committee against Political Control of Gary's Water." Headed by Phillip Parker, a Gary businessman, the committee consisted of a number of prominent professional men and civic leaders. A campaign headquarters was established where Mr. Parker directed an office force in dispensing literature, car stickers, and "Vote No" buttons. This committee also did radio and newspaper advertising.

MANY civic organizations came out in favor of the utility. Some worked actively to defeat the municipal drive. Perhaps the greatest service was given by the chamber of commerce, whose governmental affairs and tax research department did an objective study of "Private *versus* Public Ownership of the Local Water Company."

Water utilities in the state, both private and municipal, were studied and a comparison made on every phase of waterworks operation. The report, a 56-page booklet, resulted in the chamber's support for private ownership. One of the points in the concluding summary struck a powerful blow against the city's cause—"Under municipal ownership it is estimated that with the same efficiency of operation, there would be a deficit of \$17,295 which does not include provision for the payment of principal, which would, of course, further increase the deficit."

The Jaycees also did valiant duty for the free enterprise system. They took a public stand in favor of the utility: ran advertisements supporting their viewpoint; handed out "Vote No" buttons by the thousands to steelworkers as they left their jobs; distributed car stickers with a



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vote-no message at city and industrial parking lots.

An important part of the Jaycee effort was the use of a sound truck that patrolled the streets in the days before election. Because many nationalities are represented in Gary's population, the truck was painted with "Vote No" in several languages. The truck with its visual and vocal appeal was also used to lead a parade of utility cars and mobile equipment through the streets of Gary in a final campaign effort.

Two weeks before election the third public opinion poll was conducted. The results were startling. A ratio of 9 to 5 against private ownership had been reversed to 5 to 1 in favor of GHWC. The report pointed out, however, that the utility could not be sure that all of the 61 per cent now favoring the present ownership of the water system would go to the polls on February 16th. Only 13 per cent now preferred city ownership and 26 per cent had no preference.

On referendum day only a skeleton crew operated the filter plant and the offices were closed while employees worked as poll watchers, drove voters to the polling places, did baby sitting, and manned the telephones calling the thousands of potential vote-no citizens to remind them of the issue at stake and to offer service if needed to get them to the polls. Poll watchers were certified by the newspapers and radio station.

Private Enterprise Triumphs

THE result of the voting was overwhelming for Gary-Hobart. By a

vote of 26,539 to 10,723, or a ratio of more than two and a half to one, the issue was decided in favor of the present owners.

It was a victory, not only for a small corporation struggling for existence against a socialistic trend, but for the American free enterprise system. Gary citizens believed the facts given them by the utility, because the corporation and its employees had a good reputation in the community, because it had given them fine quality water and good service at a fair price. Good public relations had been maintained on the organizational level with at least one supervisor an active member of every civic or service club in the city. Utility personnel were encouraged to participate in community projects.

But the utility story had not been reaching the majority of citizens. Because of the referendum campaign, the people of Gary now are better informed about their water supply than they could have been in another decade of intensive public relations work.

ONE evidence of the awakened interest in the water supply is that visitors who make appointments to tour the filter plant have increased nearly 100 per cent since the referendum.

The stand to which the owners and management pinned their faith at the beginning of the campaign has become a firm conviction. But added to that is the knowledge that all the facts in the world are useless unless people can believe them, and that requires trust and confidence that can only be earned through good public relations.

Future Demand and Plant Adequacy in the Electric Industry

By FRANKLIN H. COOK*



The future is certain to see electric energy consumption increase because of population growth and technological developments. To continue to meet greater demands for electricity, both steam-generating and hydro plants will have to sustain their past rates of growth. In fact, steam-generating plants, whose investment per kilowatt has risen since 1947, may have to step up their growth rate in order to lower their capability factor. Even hydro utilities may have to replace old plants, in order to keep pace, as well as new arrangements for purchased power supply.

FUTURE demand for electricity is the cornerstone in determining the current price of securities in the electric power industry, especially where the object of the issue is to obtain new capital rather than to refund the old. Demand is interrelated with existing facilities to meet the consumer's needs. What is the status of the present plant? If it is new and has great excess capacity, an increase in demand would enable it to attain greater earnings without additional investment; if it is antiquated, a company might consider replacement even though foreseeable demand might be decreasing. Finally, if present equipment is unable to handle increased future demand, then new capital must be brought into the in-

dustry. Thus, future earnings are predicated upon the present condition of the electric power plants of the nation, plus forecasts of greater revenues in the future from increased requirements for electric power.

Demand

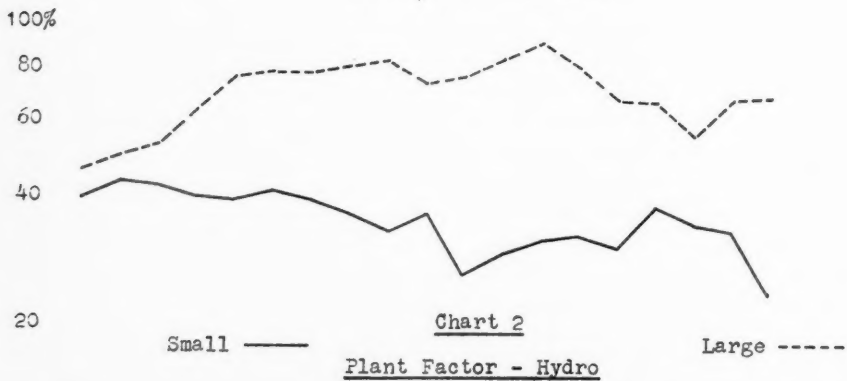
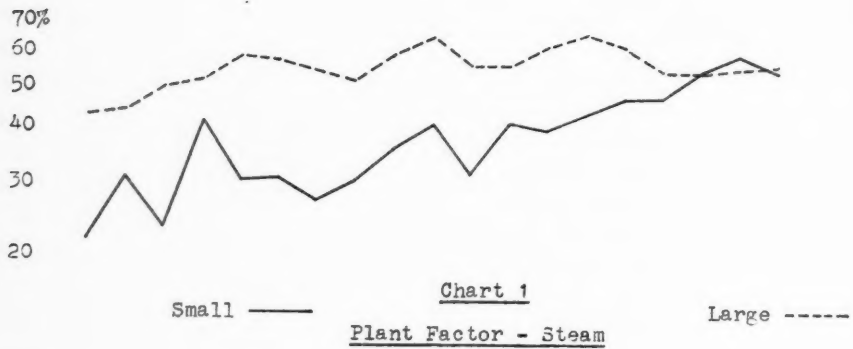
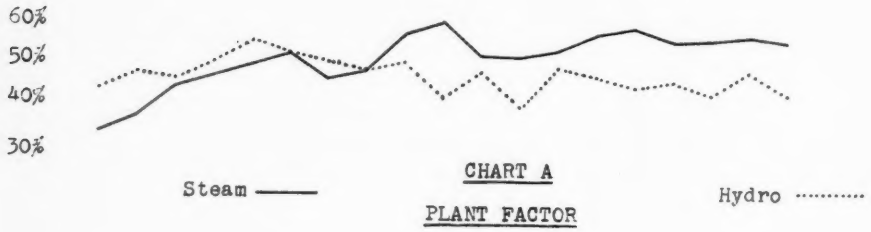
TOMORROW's demand for electric power is dependent upon an increased population, technological advancement in areas making greater use of electricity, and increased purchasing power. Since the birth of the electric power industry the first two components have been consistently present, but the latter, income of the individual, is subject to the cyclical changes of the economic system.

An examination of past use may be strong evidence of future demand. A great boom in durable goods, such as con-

*Professor of business law, College of Business Administration, The Pennsylvania State University. For additional personal note, see "Pages with the Editors."

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FUTURE DEMAND AND PLANT ADEQUACY IN THE ELECTRIC INDUSTRY

struction, or in the manufacture of machine tools, might indicate to the forecaster that there would be no similar near future demand for these items. But electricity falls into a different category than a durable good; today, it is a necessary service.

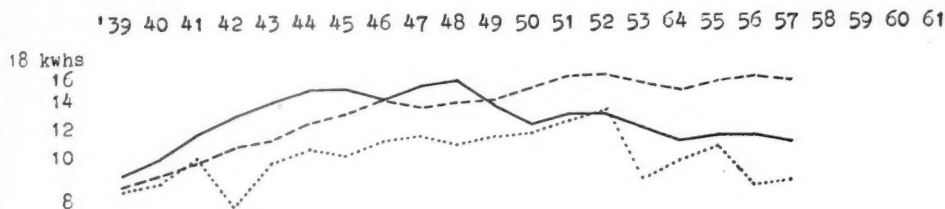
Past demand is material in assessing future needs for it gives an indication of customer habits and installed capacity of electric power-consuming appliances and machines. Except for the years 1945 and 1946, the annual total of kilowatt-hours sold has increased each year from 125,470 million kilowatt-hours in 1939 to 496,929 million kilowatt-hours

in 1957. Operating revenues have climbed steadily from \$2,270,361,000 in 1939 to \$8,308,575,000 in 1957. Our crowded schoolrooms and technological development signal that the use of electric power in the future may accelerate at a velocity more than the usual percentage of increase.

IN 1957 there were 51 million households; by 1970, 69 million households are predicted.¹ The spreading use of the heat pump which will air-condition a

¹"Electric Utility's Future," by H. R. Frankel, *Commercial and Financial Chronicle*, 185:12-13, January 3, 1957.

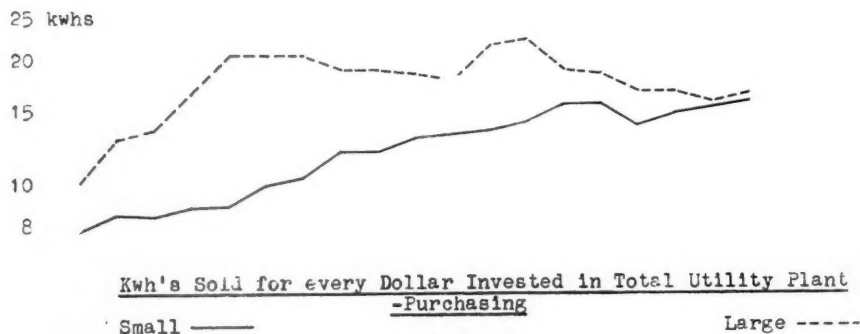
8



KWH'S SOLD FOR EVERY DOLLAR INVESTED IN TOTAL UTILITY PLANT

Purchasing ----- Steam ----- Hydro

CHART B



Kwh's Sold for every Dollar Invested in Total Utility Plant

-Purchasing
Small ----- Large -----

Chart 3

PUBLIC UTILITIES FORTNIGHTLY

house in the summer and heat it in the winter will add 12,000 to 20,000 kilowatt-hours annually to a consumer's demands. Both population growth and technological developments disclose a greater use of electricity in the future, rather than a deterioration of its use.²

Plant

IN ascertaining the future worth for securities of the electric power industry, demand for electric power is only one aspect of the analysis; the other is the adequacy of the present electric plant to cope with that demand, particularly, whether new plant added under inflationary pressure is increasing the left side of the balance sheet without producing corresponding revenue or kilowatt-hours sold.

Previous paragraphs have shown that demand has increased. If such growth occurred without a similar addition to plant capacity the capability or plant factor of the electric power industry would rise; that is, the relation of the total kilowatt-hours generated during the year to the total generating capacity. Chart A, page 168, representing medians for all of the steam and hydro companies in the United States that secure their operating revenue solely from the sale of electric energy, demonstrates that since 1947 the plant factor for the median hydro concern has fallen from 50 per cent to 44 per cent, but remained at approximately 60 per cent for the steam. From 1947 to 1957 capacity in the privately owned class A and class B electric power companies has risen from 41,863,000 kilowatts to 97,439,000

kilowatts.³ In other words, the steam companies in meeting the onslaught of demand appear to have approximately the same capacity in 1957 as in 1947. However, subdivision of the steam concerns on the basis of size of operating revenue shows in Chart 1, page 168, that the large companies have been well able to equate their capability factor with demand, but that the small enterprises have been increasing their plant factor. However, note in Chart 2, page 168, that the median capability factor for the small hydro companies in the United States has not risen as has that for the small steam utility. Characteristically, among both the steam and hydro generating concerns, large companies tend to operate at a higher capability ratio than small, Charts 1 and 2.

BY use of median plant factor or capability factor ratios for the steam and hydro companies in the United States there is evidence that the present median steam plant, representing steam utilities of all sizes, operates at about the same rate of capacity as in 1947. If dollar values had remained constant the modern plant would be securing the same production for each dollar of plant investment; that is, kilowatt-hours sold for every dollar of plant investment should be approximately the same in 1957 as in 1947. However, Chart B, "Kilowatt-hours Sold for Every Dollar Invested in Total Utility Plant," page 169, indicates that for the steam generator there has been a drop in kilowatt-hours sold per dollar of total utility plant investment from 16 kilowatt-hours in 1947

² "Capital Needs of Electric Power," by Franklin H. Cook, *PUBLIC UTILITIES FORTNIGHTLY*, Vol. 62, No. 12, pp. 929, 930, December 4, 1958.

³ Federal Power Commission, "Statistics of Electric Utilities in the United States, 1957." Washington, D. C., p. xxxvi.

FUTURE DEMAND AND PLANT ADEQUACY IN THE ELECTRIC INDUSTRY

to 11.5 kilowatt-hours in 1957.⁴ This decrease could be a function of declining kilowatt-hours sold or increased plant value; since we know that there has been a quantitative increase in kilowatt-hours sold, Table I, page 172, then the drop in kilowatt-hours sold per dollar of plant investment must reflect a higher investment in plant value. In short, in the postwar inflationary period, quantitatively, cost of plant

has increased at a more rapid rate than kilowatt-hours sold. After reaching a peak of 14 kilowatt-hours sold for every dollar of plant investment in 1952 the hydro concern has declined to 9.5 kilowatt-hours in 1957. However, during this same period the purchasing company, with its total utility plant represented almost completely by a distribution system, has been able to expand kilowatt-hours sold at a faster rate than plant investment, moving from 13.9 kilowatt-hours sold per dollar of plant investment in 1947 to 16.3 kilowatt-hours in 1957.

⁴ "Significant Ratios in the Electric Power Industry," by Franklin H. Cook, Bulletin #59, Bureau of Business Research, College of Business Administration, The Pennsylvania State University, 1958, Table 4, p. 36.

8

'39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61

20 kwhs

15

10

8

6

Kwh's Sold for every Dollar Invested in Total Utility Plant

-Steam

Small——

Large-----

Chart 4

18 kwhs

16

14

12

10

8

Kwh's Sold for Every Dollar Invested in Total Utility Plant

-Hydro

Small——

Large-----

Chart 5

PUBLIC UTILITIES FORTNIGHTLY

TABLE I

Kwhs. Sold for Types of Companies
(In Thousands)

	1947	1957
Purchasing	37,000	66,800
Steam	671,000	1,610,800
Hydro	88,000	371,000

Source: Federal Power Commission, "Statistics of Electric Utilities in the United States," 1947 and 1957, §4, Electric Operating Revenues.

A more minute analysis of the purchasing, steam, and hydro utilities on the basis of size, Charts 3, 4, and 5,⁵ pages 169 and 171, emphasizes that the small companies of each type have a greater investment in plant value for every kilowatt-hour sold than do the large companies, demonstrating that part of the efficiency⁶ of the large company comes from the nature of its plant investment.

Summary

BRIEFLY, an appraisal of future need for new capital in the electric power field reveals that there is evidence for an accelerated growth in the use of electricity in the future, rather than a diminution or leveling off. Generating capacity of the electric power companies reporting to the Federal Power Commission more than doubled between 1947 and 1957, increasing from approximately 42 million kilowatts to over 97 million kilowatts.

Over the same period, total utility plant investment moved from more than

⁵ *Ibid.* Charts 6, 7, and 8, p. 42.

⁶ Average cost per kilowatt-hour, 1957:

	Small	Medium	Large
Purchasing	2.6¢	2.3¢	2.0¢
Steam	1.9	1.4	1.2
Hydro ..	1.8	1.3	.8

Source: *Ibid.* Table 8, p. 38.

\$13.6 billion to about \$36 billion.⁷ For 1947 the average investment in total utility plant, not production plant only, but production, transmission, and distribution, was \$325 per kilowatt; by 1957 this figure was almost \$370, representing an inflationary pressure upon capacity costs.⁸ An analysis of the effects of this tremendous expansion during an inflationary period upon the purchasing, steam, and hydro utilities shows that the steam company has experienced little change in its plant factor since 1947, but has increased its plant investment per kilowatt-hour sold. But the hydro concern has been operating at a lower plant factor with a lower ratio of kilowatt-hours sold per dollar of plant investment.

IN conclusion, demand for electric energy has persistently expanded since World War II with strong evidence that this upward sweep in the use of electric power will continue. Under present conditions, to meet future demand the hydro and steam-generating companies at least will have to continue their past rate of growth, possibly increase it—if the steam concern desires to reduce its capability factor and the hydro utility to replace its old plant.⁹ With its additional number of kilowatt-hours sold per dollar of plant investment the purchasing company is approaching a point where more facilities will be required.

⁷ Federal Power Commission, "Statistics of Electric Utilities in the United States, 1957," Table 17, p. xxx.

⁸ *Ibid.* Table 17, p. xxx, and Table 22, p. xxxvi.

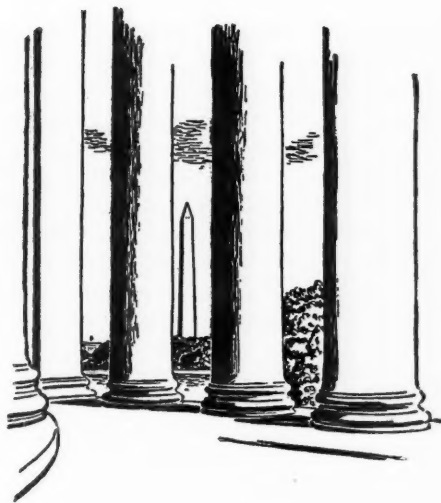
⁹ Large Reserve for Depreciation Accounts since 1952. "Are Earnings Decreasing in the Electric Power Industry?" by Franklin H. Cook, *PUBLIC UTILITIES FORTNIGHTLY*, Vol. 65, No. 11, May 26 1960, p. 721. Chart D, p. 726.

Washington and the Utilities

The Campaign and the Utilities

OVERLOOKED in the controversy over civil rights, and excitement over the nomination of the presidential and vice presidential candidates, any indications as to what extent the forthcoming election campaign might bear on the interests of public utility industries are still somewhat blurred. But even though the Democratic platform, for example, was rather general in its references to matters of utility interest, there was reason to believe that the principal candidates will get around to the subject quite definitely before election day. In fact, some of the utilities will probably hear more than they care to listen to, especially at the local levels.

It is in the nature of political platforms to cover as much as possible without pinpointing anything that would be too binding on the candidates. The result gives the casual reader—if anybody casually reads political platforms—the impression that he is scanning a mixture of the Beatitudes and the Ten Commandments brought down to date with reference to contemporaneous problems. We must have more



prosperity on the farms, better defenses, more social services, and natural resource developments but, of course, not at the price of higher taxes, inflation, or other burdens. Such non sequiturs and paradoxes have been a hallmark of platform writing regardless of party since the days of Andrew Jackson.

BUT the Democratic party platform said enough on the subject of utility interest, even in general terms, to give the candidates a chance to bear down in this area if they so desire. And that brings up the real question: Do they so desire? On July 12th, the eve of his nomination to be his party's candidate for President of the United States, Senator Kennedy (Democrat, Massachusetts) held a so-called debate with his leading contender for the nomination at that time and now his running mate for the Vice President, Senate Majority Leader Johnson of Texas. It was not much of a debate in the traditional sense of the term, since both the contestants spent much of the time agreeing with one another and praising each other's

PUBLIC UTILITIES FORTNIGHTLY

qualities. In sporting parlance it would even be called a "waltz."

But it was noteworthy that Senator Kennedy moved in sharp on the question of public power development, and directed attention to his consistent record of support for such proposals. He said: "I think we should develop the resources of the United States. I do not think they are western resources, I think they are American resources." Kennedy recalled that two "easterners" (Teddy Roosevelt and Franklin D. Roosevelt) had done more for the "West" than anybody else in public life because they recognized the national rather than regional character of the development of western resources.

JUST by way of pointing up the argument, Senator Johnson hastened to review *his* record on the same subject. He said, in part: "I have never voted against damming our streams or harnessing our rivers, or increasing our Southwestern Power Administration to serve our REA." Senator Johnson made special mention of the REA rural telephone program and the progress which has been made in putting telephones on the isolated farms through REA loans. In view of the fact that these were brief talks at which both of the speakers covered the whole range of salient issues—approximately twenty minutes each—and that both singled out the issue of power development and resource development is probably a portent that we will be hearing more about it in the three months ahead.

As for the Democratic platform, the language regarding development of natural resources could cover about anything the candidates wanted to say, if anything. The text of the official high light of the platform simply stated, "We will reverse Republican policies under

which America's resources have been wasted, depleted, underdeveloped, and recklessly given away."

The Democratic platform endorsed only one specific project—the Passamaquoddy tidal basin program. But the Democratic pledge to "foster the development of efficient regional giant power systems from all sources, including water, tidal, and nuclear, to supply low-cost electricity to all retail electric systems, private, public, and co-operative," has raised some question about the scope of such a proposal.

The Democratic platform endorses loans for rural electric co-ops for generation, transmission and generation facilities, federal transmission facilities, and strict enforcement of the preference clause. The Democratic candidate, Senator Kennedy, however, already has shown his active interest in fighting for a low-interest money policy.

The Democratic platform contains the suggestion long favored by public ownership advocates that there should be a distinction "between operating expense and capital investments" in setting up budgets for natural resources development.

Recess Appointments

PRESIDENT Eisenhower on July 13th gave Charles H. King, of Grosse Pointe Park, Michigan, a recess appointment as a member of the Federal Communications Commission and to Paul A. Sweeney, of Chevy Chase, Maryland, an appointment to the Federal Power Commission for the remainder of a term expiring June 22, 1963. Sweeney succeeds the deceased John Hussey.

The Senate failed to act on both names when they were submitted this year as regular appointments by the President.

WASHINGTON AND THE UTILITIES

The unexpired term of John C. Doerfer, to be filled by King, runs through June 30, 1961.

The President also gave a recess appointment to Harold R. Tyler, Jr., of New York as Assistant Attorney General. Tyler succeeds W. Wilson White, who resigned. Robert A. Bicks, of New York, was given a recess appointment as Assistant Attorney General in place of Victor R. Hansen, who resigned.

First REA Bond Sold to Co-operative

THE Lee County Electric Co-operative, of Fort Myers, Florida, has purchased the first bond in a new 2 per cent Treasury series, available only to rural electric and telephone systems which borrow money from the REA. The co-op's order was for a \$100,000 bond, the U. S. Department of Agriculture announced last month.

The new government bond series, which was offered for sale by the Treasury on June 30, 1960, gives REA borrowers another place to put general funds not needed currently for operation of their systems. Bonds will mature in twelve years, but they may be redeemed at par at any time by the holder upon thirty days' notice. REA Administrator Hamil said that the bonds were developed in response to requests from a number of officers, directors, and managers of REA-financed systems.

"Borrowers asked for a place to put general funds so that they could get them back if needed," Hamil explained. "They asked only that their funds draw 2 per cent interest, which is the same rate of interest they pay the government on their REA loans." The Administrator said he believed at first that new legislation would be required to set up such an arrangement,

but that talks with Treasury officials and interested members of Congress revealed that the Treasury already had authority to issue a series of bonds which would meet the needs of REA borrowers.

Hamil added that borrowers are being encouraged to continue to invest general funds in plant facilities and to make advance payments on their debt to the government. On January 1, 1960, the balance of advance payments to the government in REA's electric program exceeded \$154 million.

New Laws Signed

PRESIDENT Eisenhower has signed a bill providing that members of three regulatory agencies continue to serve after their terms expire until a successor replaces them. The agencies are the FPC, FCC, and SEC. The law already provides for continuing service by outgoing members on the other regulatory boards. The new law specifies, however, that the additional service shall not be longer than the end of the next session of Congress which follows the expiration of the commissioners' terms.

A bill (S 1886) granting legal status to television booster stations has been signed into law by President Eisenhower (Public Law 86-609). This action culminates more than two years of controversy over these stations which boost TV signals for residents in remote areas, mostly in the western part of the United States. The FCC had contended that such boosters were illegal under the law and that licensed operators must be present when broadcast signals were retransmitted.

However, heavy pressure from Congress prevented the commission from ever putting the stations out of business. Under the new law the FCC will be re-

PUBLIC UTILITIES FORTNIGHTLY

quired to license all stations now in operation and the commission may license new boosters if they are found to be in the public interest. Booster stations are also relieved of the requirement of having a licensed operator at the station during transmissions.

Unfinished Business

WHEN Congress reconvenes after the convention recess on August 8th, it is not expected that Congress will take up the controversial Harris Bill to provide a code of ethics for the regulatory agencies—even after it returns from the convention recess to finish up the session next August. In other words, after more than two years of investigations the bill, approved by the House Interstate Commerce Committee, will remain in the Rules Committee without further action. The new bill (HR 12731), which would apply to the “big six” federal regulatory agencies (Civil Aeronautics Board, FCC, FPC, Federal Trade Commission, Interstate Commerce Commission, and SEC), was mainly designed to block backdoor or other improper attempts to influence regulatory commissioners or staff personnel.

But the measure, sponsored by the chairman of the House committee, Representative Harris (Democrat, Arkansas), has already stirred up a certain amount of concern over the severity of its provision making it a criminal offense to have off-the-record contacts with commissioners or commission employees. Violators would be subject to penalties of up to a year in jail and up to \$1,000 fine. The provision for the acceptance of gifts or favors has caused a good many expressions of doubt because of the uncertainty of the language used.

Congress will have to do something about the minimum wage bill because failure to finish work could cause political repercussions. Just prior to the beginning of the recess, the legislators were working so recklessly to finish up that a major error in the amendments to the Wage-Hour Law slipped through without being noticed. This leaves the outlook for the final form of any new law very confused.

AS far as the small telephone exchange operators' amendment is concerned, the Senate committee bill limits the exemption to small independent “companies” (as distinguished from “exchanges” in the present law) which serve fewer than 750 telephone stations. The House-passed bill junked its own committee report and made no change in the telephone exemption whatever.

The House-passed version includes a 15-cent increase in the minimum wage to apply to some 23.7 million workers now covered by the Wage-Hour Act, and in addition would bring another 1.4 million retail workers under the law's jurisdiction. The admitted error, which the House bill inadvertently contained, was the inclusion of an amendment which would strip 14 million workers of their rights to a minimum wage and a 40-hour week. This slip makes it impossible for the Senate to accept the House version of the bill.

The Senate is certain to pass a much more liberal bill which would boost the minimum wage to \$1.25 and would also provide extensive expansion of coverage. If there had been no error in the House bill, the Senate might have accepted the House measure with only minor changes in order to avoid delay. But it will now be necessary to have extensive floor debate on the Senate's own version of this legislation.

Telephone and Telegraph



AT&T Submits Satellite Plans

THE Federal Communications Commission has received a description of future world-wide communications in testimony filed by James B. Fisk, president of the Bell Telephone Laboratories; John R. Pierce, the laboratories' director of research communications principles; Charles M. Mapes, assistant chief engineer for the American Telephone and Telegraph Company; and Brockway McMillan, director of Bell Laboratories military research.

It is the Bell system's contention that the FCC should anticipate the requirements of space and satellite communications in the spectrum above 890 megacycles.

Mr. Fisk, in his testimony, stated that submarine cables will increase in number and efficiency; however, they will remain at a disadvantage compared with cables and microwave systems over land. Satellites, relaying microwaves, may be the most economical and reliable way of linking the 94 per cent of the world's people who live outside the United States. In this connection Mr. Fisk pointed out that of the three billion people in the world only 180 million (about 6 per cent) live in the United States. At present, and this figure does not include Alaska and Ha-

waii, the United States has 66 per cent of the world's telephones. Mr. Fisk noted that transoceanic satellite systems would not be confined to telephone communications but would also carry data and television signals.

THE opening up of electrical communications with the vast number of people outside the United States will be possible, Mr. Fisk stated, only if broad bands of frequencies above 1,000 megacycles and below 20,000 megacycles are available for use. Frequencies below 1,000 megacycles are insufficient for space use and cosmic noise affords a considerable problem. On the other hand, frequencies above 20,000 are not suitable because of noise and the possibility of interruption of service by rain. Mr. Fisk stated:

We firmly believe that it is clearly in the public interest at this time for the commission to conserve the use of the frequency spectrum and to maintain its earlier sound policy of restricting the licensing of private microwave systems, in order to minimize the coming problems of allocations and interference in meeting frequency needs for space communications.

PUBLIC UTILITIES FORTNIGHTLY

Mr. Pierce's testimony covered the technical aspects of satellite communications, including problems of need, factors affecting satellite systems, Project Echo, passive satellite systems, active repeaters, orientation and station keeping, and stationary repeaters.

Project Echo had an unsuccessful launching attempt in May of this year. However, another launching is planned, and if forecasts are correct two-way telephonic communications across the country for periods of up to sixteen minutes could take place. Mr. Pierce forecast that about 30 satellites in 2,500 polar orbits would provide a commercial grade of service between Holmdel and London or Paris.

CHARLES M. MAPES presented a general outline for world-wide communications using microwave transmission via active satellites and also projected the future needs for world-wide communication channels. He stated that about 50 active repeater-type satellites in random polar orbits, 3,000 miles above the earth, would provide an effective means of providing communications facilities between the United States and all areas of the world. In the future Mr. Mapes expects greatly increased demands for telephone and other services to overseas points. He also forecast an increase in high-speed data and closed circuit television service, as well as special services for the government.

Concluding his testimony Mr. Mapes stated:

We believe satellite communications are absolutely necessary to provide for the increased needs. We have already spent sizable sums of money for research on satellite communication. . . . We have the know-how available in our laboratories to do this research

and development work. We want to continue their work in this direction. If we can be assured of reasonably adequate frequencies to provide for the future we will continue this work. . . .

THE director of military research at the Bell Laboratories, Brockway McMillan, testified regarding the factors which bear on the engineering of radio systems over paths to and from the earth. He illustrated how these factors limit the frequencies that can be used for communicating between earth and space and how they limit the sharing of frequency assignments between various users. He stated that space systems can share among themselves the same frequency if there is adequate co-ordination of the planning, layout, and operation of the sharing systems. Mr. McMillan emphasized that a high degree of co-ordination would be necessary. He does not believe, for example, that it is practical for commercial systems to share frequency assignments with the government for space communications.

The 38 pages of testimony submitted to the FCC also contained numerous charts and graphs supporting AT&T's contention that the commission should anticipate the coming boom in space communications.

FCC Sets Deadline for Cable System Sale

THE Federal Communications Commission has warned Western Union that it must submit a plan by September 1st to divest itself of its international telegraph business or possible legal sanctions may be taken. Congress, some seventeen years ago, authorized Western Union to establish a monopoly in the domestic tele-

TELEPHONE AND TELEGRAPH

graph message field, contingent upon the understanding that Western Union would dispose of its overseas cable service.

In February of this year Western Union contracted to sell its cable system to Barnes Investment Corporation, of Chicago, Illinois. Subject to the fulfillment of a number of conditions, including FCC approval, the contract provided for a price estimated at \$13.5 million to be received by Western Union in cash. One of the sales conditions was the acquisition by Barnes Investment Corporation of the stock of Anglo-Telegraph Company, Ltd., and the release of Western Union from all obligations under a long-term lease to Western Union of Anglo's five transatlantic cables. Under the lease Western Union is obliged to maintain the leased properties and pay annual rentals of \$735,000 until the year 2010 when the lease would terminate.

Following these plans the Barnes company sought an extension of time to arrange financing and the commission granted an extension until August 2nd, warning that unless Barnes raised the needed money by then, Western Union must produce some other specific plan for disposal of the facilities by September 1st.

In the past Western Union has advanced a number of other plans for divesting itself of its international telegraph business but each time some snag in the arrangements has developed. Should Western Union fail to advance some acceptable plan by September 1st, it is not entirely clear what form the threatened legal sanctions might take.

Pioneer V Lost in Outer Space

THE Jodrell Bank radiotelescope has lost contact with the Pioneer V space

probe which was launched last March 11th. At its last transmission the probe was 23 million miles away from the earth's surface and in a solar orbit.

Dr. A. C. B. Lovell, director of the largest radiotelescope, which is located near Manchester, England, has reported personally to President Eisenhower regarding the project. The last transmissions were received from a five-watt transmitter which was turned on and off, on command, from the Jodrell station. The probe carried a more powerful transmitter and scientists had hoped to receive messages from 50 million miles away but early in the probe's journey this transmitter failed to operate.

Two New York TV Stations to Test UHF

NEW YORK city will be the scene of a year-long congressionally sponsored test of ultrahigh-frequency (UHF) TV. The Federal Communications Commission had tried to develop both UHF and very high-frequency (VHF) transmission but the UHF stations have not been popular because an adapter is needed on the more numerous VHF sets and UHF transmission has experienced some technical difficulties.

In testimony before a Senate Appropriations subcommittee, Commissioner Lee stated that "UHF cannot exist in a market where there is a VHF station." He, therefore, suggested that the New York test would either develop UHF into commercial usefulness or it would rule it out once and for all. Among the factors to be evaluated will be reception as compared with VHF in the same areas and various types of receivers.



Financial News and Comment

By OWEN ELY

High Lights of Electric Utility Stockholders' Reports

IN trying to summarize the principal items of interest in the 1959 reports to stockholders of the major electric utilities, it has been necessary to omit some topics such as atomic power, to which almost every report devotes some space; and also the appraisal of methods used to present statistical data in ten-year tables, "pie" charts showing the breakdown of the revenue dollar, etc. It has been necessary to condense many interesting items, at the risk of clarity, because of the limited space here available.

Growth

PERHAPS due to the market popularity of "growth utility" stocks, area growth is described in many reports. *Long Island Lighting's* area has a growth saga; LILCO's area population is now approaching 2 million or nearly ten times the amount when the company was founded in 1910. The company feels that it is safe to assume that it will take another fifty years for the island to reach "anything like full maturity." *Baltimore Gas & Electric* expects substantial gains in the years ahead, since census projections indicate that Maryland will enjoy the third highest rate of growth among the

larger states. *Southern Company* reports growth in the Southeast "accelerating"; last year new plants worth over \$70 million came into its area, and over \$132 million was spent to expand existing plants. *Houston Lighting* tells about the building programs of a number of big industrial companies in its area. *Florida Power & Light* says new customers are coming in at the rate of nearly 1,000 a week. Tourism has grown to a stable year-round business, and the state plays host to some 11 million visitors annually. There is wide activity in land development, and manufacturing industries of all sorts continue to expand. *Tucson Gas, Electric Light & Power* also reports that growth in its area is "explosive." *Public Service of New Mexico* last year sold nearly four and a half times as much electricity as a decade earlier—which must be a record.

Area Development

MANY annual reports devote space to this topic and it is impossible to

DEPARTMENT INDEX

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FINANCIAL NEWS AND COMMENT

give credit to all of them. *West Penn Electric* reports that development work helped to bring 70 new industries and expansion projects to system areas. *Boston Edison's* report has a big pictorial spread, entitled "Greater Boston Is Growing Greater," which shows the ambitious new highway systems, including the "Golden Semicircle Route" and various expressways. *American Electric Power* holds that better communities are very important in attracting industry:

Just as there has been a shift in plant location emphasis with decentralization as a prime objective, there must also be constructive changes in community thinking, planning, and action. A renaissance in community improvement and redevelopment activities is highly essential for many towns throughout the country. This is why our trained specialists continue to assist our communities in developing and carrying out improvement programs.

Ohio and West Virginia passed measures in 1959 which will help considerably in future industrial improvement, the company reports; one permits establishment of economic development agencies, to provide services in research and resource analysis; the other establishes statewide development credit corporations.

CAROLINA POWER & LIGHT reports that investment in new and expanded plants in its area approximated \$75 million, a 59 per cent gain. Its area development department maintained contacts with state development agencies, financial institutions, railroads, plant location services, consulting engineers, industrial realtors, and building contractors—with a continuous advertising program involving trade publications and direct mail. *Cal-*

ifornia-Oregon Power has published factual books on resources and development possibilities for a number of its communities. A weekly TV show sponsored by the company ran films on local industry and products. *Columbus & Southern Ohio Electric* reports that eight communities now have industrial development corporations, with a capitalization of \$500,000.

CONNECTICUT LIGHT & POWER reports that four more communities have organized industrial foundations making thirteen, the company participating in all of them. The Connecticut Development Credit Corporation, which the company helped to form, lends development funds not available from normal credit sources. Southern New Jersey continues to be one of the leading growth areas of the nation, having attracted 80 new industries since 1951, according to *Atlantic City Electric*, whose area development department helps in site location surveys.

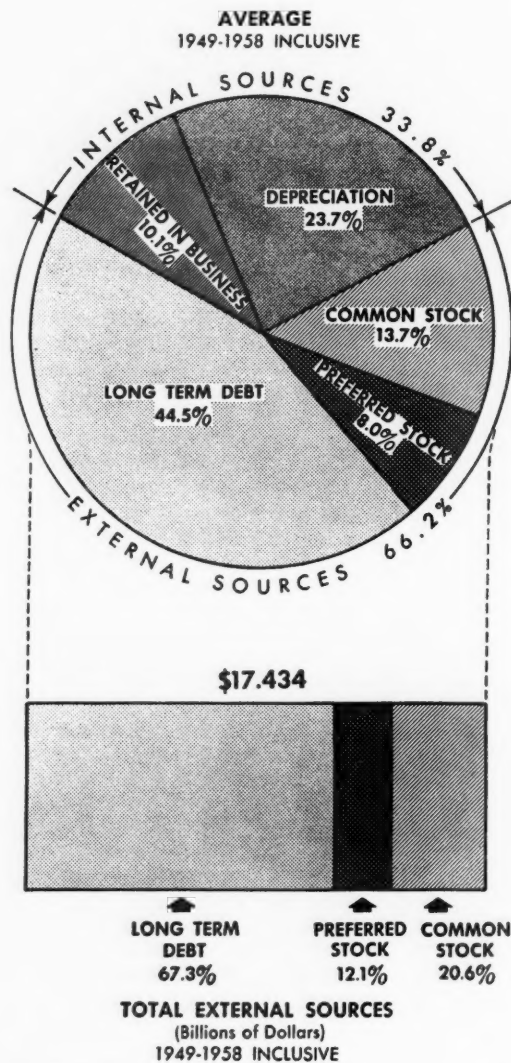
Missouri Public Service's area development department worked with 78 industries in 1959 which were interested in locating in its territory, 18 of them deciding to settle there. Four communities formed new industrial development corporations, bringing the total to sixteen. Some utilities are using national advertising media for area development; *Detroit Edison* last year ran a series of ads directed to the electronics and research industries, pointing out the "scientific climate of southeastern Michigan."

Electric Heating

PROMOTION of electric heating through special rates, advertising, work with building contractors, etc., has become almost a "must" with the electric utilities, in order to counter the growing air-conditioning load and maintain industry

PUBLIC UTILITIES FORTNIGHTLY

SOURCES OF FUNDS INVESTOR-OWNED ELECTRIC UTILITY COMPANIES IN THE UNITED STATES



Source: Ebasco Services Incorporated

FINANCIAL NEWS AND COMMENT

growth. *General Public Utilities'* subsidiaries have filed all-electric rate schedules. At the beginning of 1959, its two Pennsylvania subsidiaries had 400 home electric space-heating installations, and over 650 were added during the year.

Last year over 5,300 electrically heated homes were added to the big *American Electric Power* system, bringing the total to nearly 19,600, bettering the previous year's record by 38 per cent. Nearly one-quarter of the additions were replacements of existing heating systems. The average residential nonheating customer used 3,837 kilowatt-hours, but the average heating customer used over five times as much. Electric heating is now used by 1.6 per cent of residential customers and brings in \$6 million a year in revenue. *Virginia Electric & Power* reports that heat pumps, wall and baseboard panels, and ceiling cable were used in much new construction. Residences, motels, schools, medical centers, post offices, churches, bowling alleys, stores, and dairies were among the diverse interests choosing electricity for heating. *Indianapolis Power & Light* reports 177 heat pumps installed in 1959 compared with 75 resistance heat installations.

Appliances and the Medallion Homes

UNFORTUNATELY few utilities give statistics about the degree of saturation for various appliances in their areas. *Atlantic City Electric* reports 60 per cent saturation for electric ranges, 40 per cent for water heaters, and 18 per cent for electric clothes dryers. As a result of aggressive advertising campaigns using various media, dealers in its area last year installed over 1,000 electric ranges, including about 400 in homes of customers formerly using nonelectric ranges. A six weeks' campaign for sales of laundry

equipment resulted in sale of 532 electric clothes dryers and 225 electric water heaters by dealers.

Florida Power Corporation reports that over 2,000 customers qualified as "Medallion Homes" last year, over five times the number in 1958. This award involves installation of five major appliances and requires high standards of lighting and wiring. Many other reports give statistics on the number of Gold and Bronze Medallion Home awards in their areas. *Consolidated Edison* reports a major rewiring job on the Fresh Meadows development (owned by the New York Life Insurance Company), consisting of 3,008 apartments, a shopping center, theaters, etc. Outlets for air conditioning are being provided for all rooms, and kitchens modernized to include dishwashers, fans, etc.

Farm Electrification

AMERICAN ELECTRIC POWER reported that the average farm customer in its area used 4,727 kilowatt-hours in 1959 compared with 4,462 in the previous year. On some farms in the area average use now exceeds 7,000 kilowatt-hours and a few go as high as 50,000 kilowatt-hours. *Wisconsin Electric Power's* model electrified farm was chosen last year as an exhibit at the American exhibition in Moscow, where it was viewed with interest by more than 100,000 Russians. It included a transparent plastic barn with electrically powered elevators and conveyors for feed and forage. It also included an all-electric farm home, an electrified dairy house, chicken house, hog house, and farm workshop.

Operating Efficiency

As usual, *American Electric Power* leads in the development of large

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generating units and expects this year to put into operation two 450,000-kilowatt very efficient units. *Philadelphia Electric* now produces one kilowatt-hour with .81 of a pound of coal, and a new unit will use only .60 of a pound. The company has installed a diesel generating unit of 4,200 kilowatts for peak-shaving purposes, and has ordered two gas turbine generators with combined capacity of 42,500 kilowatts for further experiment in peak-shaving efficiency. *Pennsylvania Power & Light* is trying a new efficiency method—oxygen analyzers are being installed in the boilers at its Sunbury station to measure the amount of oxygen in the gases leaving the boiler, giving the operators a continuous picture of combustion. Thus, furnace conditions can be accurately controlled for most economical use of fuel.

Employees

IOWA-ILLINOIS GAS & ELECTRIC reports that the number of its employees has increased only about one per cent in the last five years, while revenues gained 61 per cent. (Wage rates increased 33 per cent.) *Detroit Edison* has an employee proposal plan, and of 1,423 proposals submitted, about 40 per cent were put into effect. Employees also made important contributions to work simplification projects. The value of these savings combined with those from employee proposals is estimated at over a million dollars a year.

Power Pooling

IOWA SOUTHERN UTILITIES reports that the Iowa power pool, initiated in 1958, has "demonstrated its worth." Load dispatchers act as brokers for buying and selling of power between the companies, for both routine and emergency use. Coordinated planning of future generating

and transmission facilities by members of the pool is fully under way. *California-Pacific Utilities* reports that it is participating in "a multicompany program for fusing into a single network the electric systems of investor- and publicly owned utilities of the western states."

Research in Generation and Transmission

THE electric utilities are playing an increasingly active rôle in research, along with the leading electric manufacturers. This trend is important if the industry is to continue its dynamic rôle in national development—otherwise "liberal" legislators and economists may urge that public power should take over the job.

Last year *American Electric Power* spent \$900,000 on research, including atomic energy. Further progress was made in the use of computers. The company is working on a coal-fired gas turbine driven electric generator, use of which is expected to improve efficiency materially. This is the first time that a gas turbine based on coal has been used. Three of the company's subsidiaries have joined with seven other electric utilities and Avco Corporation in a research project on MHD. *Central Illinois Light*, also in the Avco group, reports that preliminary investigations indicate that a system using the MHD generator may be 25 per cent more efficient than existing generating systems, and that capital costs should be competitive. *Detroit Edison's* engineering research department has built and tested several laboratory models of fuel cells and thermoelectric generators. The company is also following national developments in the collection and storage of solar energy. *Kansas Power & Light* predicts that application of the

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thermoelectric principle to walls will afford both heating, cooling, and lighting, and that ultrasonic sound will be used for cleaning dishes, laundry, etc.

General Public Utilities reports that its 460,000-volt test transmission line in Pennsylvania will be energized this summer. This 13-mile experimental line will seek answers to problems and to cost aspects of transmitting large amounts of low fuel cost electricity at a high voltage level. Participating in the EHV project are 12 manufacturers and suppliers of line and substation equipment. Many utilities report increasing and diversified use of computers. *Commonwealth Edison* has installed a computer-controller device called the automatic dispatch system, designed to make most efficient use of all generating units on an instantaneous basis.

Rates and Regulation

WHILE a number of electric utilities comment on rate changes, few of them give the complete details of rate decisions which the utility analyst and the institutional investor are interested in having. Of course these are supplied by the P.U.R. services, and copies of the decisions are usually obtainable, but nevertheless stockholders' reports might well elaborate somewhat further on the company's rate proceedings.

The adoption of fuel clauses in rate tariffs seems to be gaining, though slowly. *American Electric Power* reports that several of its operating companies obtained commission approvals for adjustments, the new tariffs being designed to reflect present-day costs of fuel and operating efficiency. *Gulf States Utilities* reports that in 1959, with the approval of the Louisiana Public Service Commission, fuel clauses were added to all rate sched-

ules in that state which did not already contain such clauses. Similar clauses were added to its Texas rate schedules in 1958, and other Texas utilities have made progress in this respect, helping them to cope with rising gas costs. Iowa utilities have had considerable difficulty (in their dealings with municipalities) in obtaining rate adjustment clauses to take care of the steady increases in cost of gas from suppliers. However, *Iowa Power & Light* last year obtained gas rate increases of \$3 million, the first in five years. *Iowa-Illinois Gas & Electric* has finally obtained fuel clauses for all rates in Illinois and in some Iowa municipalities, while the Cedar Rapids council now appears willing to amend rate schedules as needed.

BALTIMORE GAS & ELECTRIC finally won approval in 1959 from the court of appeals for the \$5.4 million increase in rates which had been authorized by the Maryland commission in July, 1958, but later overruled by the circuit court on an appeal by the people's counsel and others. *Consolidated Edison's* report describes its rather complicated program for obtaining rate relief from the New York commission. The company was allowed rate increases of \$8 million in June, 1959, and \$14 million in January, 1960, while a substantial additional amount has been requested. *Cincinnati Gas & Electric* devotes about a page of its report to rate problems, stating "the effect of inflation on operating expenses and plant investment per customer continues to be the major long-term rate problem of the country."

Ohio Edison secured rate increases in 52 municipalities last year for an annual revenue increase of \$2.4 million. It also asked the state commission for about an equal amount, and its Pennsylvania subsidiary requested \$1.4 million in that

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state. Fortunately, continuing efforts to discard Ohio's state law prescribing a "reproduction cost new depreciated" rate base have failed again.

ONE of the most important rate cases now pending is that of *Public Service Electric & Gas*, which in 1958 requested increases in electric and gas rates totaling \$36.4 million, of which \$3.5 million was allowed on a temporary basis. Proceedings were still pending at the time the annual report appeared, but a decision appears likely before the end of the year. In New England the regulatory atmosphere remains rather bleak. *Central Maine Power* filed for an increase of rates in 1958, but in June, 1959, the state commission allowed only about one-third of its request; the company appealed the case to the Maine supreme court. Moreover, the commission ordered a hearing last February to question the fuel adjustment clause which it had authorized about two years earlier.

NIAGARA MOHAWK POWER obtained rate increases of about \$7.5 million effective about a year ago; it had asked for \$10.5 million. Because of the company's continuing problems stemming from the loss of its huge hydro plant at the Falls several years ago, another increase would seem necessary to insure a fair return. *Consumers Power* received a rate increase of \$6.8 million in 1959, only about 44 per cent of the amount requested; the commission rejected the fair value rate base formerly allowed in this state.

Central Hudson Gas & Electric obtained a rate increase of only \$300,000 last year, being ordered to use "flow through" of tax savings from accelerated depreciation to obtain the remaining \$1,590,000.

Long Island Lighting, which had adopted flow through, made a voluntary electric rate reduction of \$1.2 million last January—a year and a half earlier it had obtained a \$1.9 million increase.



FINANCIAL DATA ON ELECTRIC UTILITY STOCKS

Annual Rev. (Mill.)		7/12/60 Price About	Divi- dend Rate	Apprx. Yield	Recent Share Earnings	% Incr. In Sh. Earnings		Price- Earnings Ratio	Div. Pay. out	Apprx. Book Value
\$324	S American Elec. Power ...	59	\$1.80	3.1%	\$2.39Ma	2%	8%	24.7	75%	\$24
63	O Arizona Pub. Serv.	46	1.20	2.6	*2.05Ma	*14	* 6	*22.4	59	18
13	O Arkansas Mo. Power	19	1.00c	5.3	1.31Ma	D12	3	14.5	76	10
38	S Atlantic City Elec.	37	1.10	3.0	*1.46My	*12	* 9	*25.3	75	12
169	S Baltimore G. & E.	27	1.00	3.7	1.41De	18	8	19.1	71	13
8	O Bangor Hydro-Elec.	43	2.20	5.1	3.22Ma	17	5	13.4	68	28
7	O Black Hills P. & L.	30	1.48	4.9	2.63Ap	17	4	11.4	56	22
116	S Boston Edison	64	3.00	4.7	3.69De	4	4	17.3	81	51
31	A Calif. Elec. Power	21	.84	4.0	*1.14Ma	*D2	*10	*18.4	74	12
24	O Calif. Oreg. Power	35	1.60	4.6	*1.81De	*D9	*	*19.3	88	26
10	O Calif. Pac. Util.	19	.90	4.7	1.43My	19	4	13.3	63	12
76	S Carolina P. & L.	43	1.32	3.1	2.31My	14	6	18.6	57	21
34	S Cent. Hudson G. & E. ...	24	.92	3.8	*1.43Ma	*10	* 8	*16.8	64	13
26	O Cent. Ill. E. & G.	38	1.44	3.8	2.30My	12	12	16.5	63	15
43	S Cent. Ill. Light	39	1.52	3.9	2.58My	19	10	15.1	59	18
60	S Cent. Ill. P. S.	55	1.92	3.5	2.78Ma	7	7	19.8	69	20
20	O Cent. Louisiana Elec.	57	1.80	3.2	2.39Ap	NC	7	23.8	75	19
42	O Cent. Maine Power	25	1.40	5.6	*2.03My	*33	*	*12.3	69	21
160	S Cent. & South West	38	.96	2.5	1.37Ma	5	6	27.7	70	11
12	O Cent. Vermont P. S.	20	1.08	5.4	*1.39My	—	* 2	*14.4	78	13
140	S Cincinnati G. & E.	40	1.50	3.8	2.14Ma	17	3	18.7	70	16

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Annual Rev. (Mill.)	(Continued)	7/12/60 Price About	Divi- dend Rate	Approx. Yield	Recent Share Earnings	% Incr. In Sh. Earn. Recent 5-yr. Aver.	Price- Earnings Ratio	Div. Pay- out	Approx. Book Value	
8	O Citizens Util. "B"	17	.56	3.3	.73Ma	11	6	23.3	77	4
130	S Cleve. Elec. Illum.	57	1.80	3.2	3.04Ma	14	9	18.8	59	26
7	O Colo. Cent. Power	30	.75	2.5	1.13Ma	10	6	26.5	66	11
52	S Columbus & S. O. E.	49	1.80	3.7	2.83My	40	6	17.3	64	24
454	S Commonwealth Edison ...	65	2.00h	5.4h	3.81My	6	10	17.1	52	33
16	A Community P. S.	32	1.00	3.1	1.50Ma	13	6	21.3	67	12
85	O Conn. Lt. & Pr.	23	1.10	4.8	*1.47My	*12	* 4	*15.6	75	15
615	S Consol. Edison	66	3.00	4.5	*3.81Ma	*D4	* 6	*17.3	79	49
258	S Consumers Power	61	2.60	4.3	3.72My	10	5	16.4	70	35
90	S Dayton P. & L.	57	2.40	4.2	3.18Ma	D3	4	17.9	75	30
53	S Delaware P. & L.	42	1.14	2.7	1.62Ma	7	9	25.9	70	26
267	S Detroit Edison	45	2.00	4.4	2.47My	8	3	18.2	81	27
156	A Duke Power	51	1.40c	2.7	2.20Ma	5	10	23.2	64	20
101	S Duquesne Light	24	1.18	4.9	*1.47Ma	* 7	* 5	*16.3	80	10
36	O East. Util. Assoc.	40	2.20	5.5	2.88Ap	2	6	13.8	76	26
3	O Edison Sault Elec.	18	.90	5.0	1.30Ma	3	6	13.8	70	9
17	O El Paso Elec.	42	1.16	2.8	1.81My	13	7	23.2	64	11
13	S Empire Dist. Elec.	32	1.36	4.3	1.89Ma	13	7	16.9	72	16
62	S Florida Power Corp.	37	.80	2.2	1.18Ma	2	10	31.4	68	12
155	S Florida P. & L.	68	.96	1.4	2.01Ma	13	17	33.8	48	15
4	O Florida Pub. Utils.	22	.72	3.3	1.34Ma	30	9	16.4	52	10
231	S General Pub. Util.	26	1.12	4.3	*1.62Ma	* 2	* 7	*16.0	69	15
7	O Green Mt. Power	19	1.10	5.8	1.35My	—	3	14.0	81	12
78	S Gulf States Util.	37	1.00	2.7	1.41My	12	8	26.2	71	11
54	A Hartford Electric	62	3.00	4.8	*3.69Ma	* 2	NC	*16.8	81	43
27	O Hawaiian Elec.	56	2.50	4.5	3.39Ma	16	7	16.5	74	34
105	S Houston L. & P.	88	1.60	1.8	3.10My	7	6	28.4	52	21
34	S Idaho Power	54	1.70	3.2	2.60My	NC	1	20.8	65	27
104	S Illinois Power	55	2.00	3.6	2.88My	22	14	19.1	69	20
54	S Indianapolis P. & L.	47	1.70	3.6	2.53Ma	11	9	18.6	67	18
33	S Interstate Power	19	.90	4.7	1.17Ma	—	4	16.2	77	8
42	S Iowa Elec. L. & P.	44	1.80	4.1	2.61My	20	6	16.9	69	20
51	S Iowa-III. G. & E.	40	1.90c	4.8	2.69My	10	4	14.9	71	20
47	S Iowa P. & L.	37	1.60	4.3	2.31Ma	9	3	16.0	69	18
40	O Iowa Pub. Service	18	.80	4.4	1.27My	3	4	14.2	63	10
17	O Iowa Southern Util.	32	1.48	4.6	2.18My	3	9	14.7	68	20
64	S Kansas City P. & L.	56	2.20	3.9	3.21My	7	6	17.4	69	29
36	S Kansas G. & E.	55	1.64	3.0	2.61My	D1	7	21.1	63	22
54	S Kansas P. & L.	36	1.42	3.9	2.46Ap	18	9	14.6	58	17
47	O Kentucky Util.	40	1.60	4.0	2.73De	15	6	14.7	59	23
8	O Lake Superior D. P.	25	1.28	5.1	1.71Ma	7	4	14.6	75	17
136	S Long Island Lighting	39	1.40	3.6	*2.08Ma	* 4	* 9	*18.8	67	20
66	S Louisville G. & E.	52	1.40	2.7	2.61Ma	17	8	20.0	54	21
12	O Madison G. & E.	27	1.00	3.7	1.88Ma	1	3	14.4	53	39
5	A Maine Pub. Serv.	21	1.20	5.7	1.50My	2	2	14.0	80	14
8	O Michigan G. & E.	76	1.70e	5.4	5.26Ma	D2	12	14.4	32	29
198	S Middle South U.	30	1.00	3.3	1.35My	2	7	22.2	73	14
31	S Minn. P. & L.	35	1.60	4.6	2.24My	D4	5	15.6	71	21
16	S Missouri P. S.	20	.72f	3.6	1.14My	33	5	17.5	63	8
8	O Missouri Util.	29	1.36	4.7	1.68Ma	—	—	17.3	81	18
46	S Montana Power	30	1.12	3.7	*1.39Ma	* 1	* 8	*21.6	81	9
172	S New England Elec.	21	1.08	5.1	1.34Ma	2	3	15.7	81	15
52	O New England G. & E. ...	23	1.16	5.0	1.70My	D1	5	13.5	68	17
105	S N. Y. State E. & G.	27	1.20	4.4	*1.79My	*D9	* 8	*15.1	67	18
285	S Niagara Mohawk Power ..	37	1.80	4.9	*2.21Ap	* 4	—	*16.7	81	23
104	O Northern Indiana P. S. ..	62	2.20	3.5	3.24Ma	12	5	19.1	68	26
170	S Northern Sts. Power	28	1.10	3.9	1.42Ma	4	6	19.7	77	12
12	O Northwestern P. S.	21	1.10	5.2	1.66Ma	10	6	12.6	66	12
151	S Ohio Edison	35	1.48	4.2	2.07My	11	6	16.9	71	17
58	S Oklahoma G. & E.	33	1.12	3.4	1.39My	D7	6	23.7	81	11
29	S Orange & Rockland Utils. .	39	1.10	2.8	*1.53De	*20	*14	*25.5	72	14
19	O Otter Tail Power	33	1.80	5.5	2.42Ma	7	6	13.6	74	24
535	S Pacific G. & E.	65	2.60	4.0	3.81Ma	2	5	17.1	68	42

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58	O	Pacific P. & L.	38	1.60	4.2	*2.06My	*D7	* 4	*18.4	78	23
138	S	Penn P. & L.	27	1.25	4.6	1.76My	7	5	15.3	71	13
264	S	Phila. Elec.	51	2.24	4.4	2.95Ap	3	5	17.3	76	26
40	O	Portland Gen. Elec.	30	1.20	4.0	1.91My	12	4	15.7	63	18
82	S	Potomac Elec. Power	29	1.32	4.6	*1.90Ma	*16	* 9	*15.3	69	18
102	S	Pub. Serv. of Colo.	60	1.90	3.2	2.79Ma	7	6	21.5	68	27
369	S	Pub. Serv. E. & G.	40	1.80	4.5	2.33Ma	D2	4	17.2	77	24
88	S	Pub. Serv. of Ind.	46	2.10	4.6	2.68My	D6	3	17.2	78	27
34	O	Pub. Serv. of N. H.	19	1.04	5.5	1.37My	2	2	13.9	76	14
17	O	Pub. Serv. of N. M.	39	1.00	2.6	1.51Ma	—	10	25.8	66	12
32	S	Puget Sound P. & L.	37	1.56	4.2	2.11Ma	4	9	17.5	74	23
72	S	Rochester G. & E.	48	1.80b	3.8	*3.15Ma	* 6	* 7	*15.2	57	30
10	S	St. Joseph L. & P.	34	1.60c	4.7	2.28Ma	31	6	14.9	70	18
71	S	San Diego G. & E.	30	1.20	4.0	1.86My	14	8	16.1	65	18
12	O	Savannah E. & P.	33	1.12	3.4	1.23Ap	D6	1	26.8	91	12
12	O	Sierra Pacific Pr.	42	1.60	3.8	2.52My	20	14	16.7	64	17
280	S	So. Calif. Edison	62	2.60	4.2	3.87Ma	11	6	16.0	67	42
56	S	So. Carolina E. & G.	46	1.40	3.0	1.98My	12	6	23.2	71	19
8	O	Southern Colo. Pr.	19	.90	4.7	1.09Ma	D30	—	17.4	83	13
297	S	Southern Co.	48	1.40	2.9	1.98My	10	9	24.2	71	17
21	S	So. Indiana G. & E.	36	1.60	4.4	2.58My	6	2	14.0	62	21
9	O	So. Nevada Power	44	1.10	2.5	2.03My	20	5	21.7	54	15
4	O	Southwestern E. S.	17	.72	4.2	1.01My	3	5	16.8	71	7
47	S	Southwestern P. S.	27	.84	3.1	1.11My	16	7	24.3	76	7
36	A	Tampa Electric	38	.72	1.9	1.03Ma	21	7	36.9	70	10
183	S	Texas Utils.	82	1.92	2.3	2.96My	5	9	27.7	65	21
47	S	Toledo Edison	18½	.70	3.8	1.09Ma	D6	2	17.0	64	9
20	O	Tucson G. E. L. & P.	32	.80	2.5	1.25Ma	25	8	25.6	64	9
147	S	Union Electric	38	1.80	4.7	*2.01Ma	*19	* 5	*18.9	90	17
39	O	United Illm.	28	1.38	4.9	*1.75Ma	*D1	* 1	*16.0	79	16
6	O	Upper Peninsula Pr.	30	1.60	5.3	1.82De	—	—	16.5	88	19
50	S	Utah Power & Light	36	1.32	3.7	1.86Ap	2	5	19.4	71	19
151	S	Virginia E. & P.	48	1.20	2.5	1.79My	6	9	26.8	67	17
36	S	Wash. Water Pr.	41	2.00	4.9	*2.38My	*D11	* 7	*17.2	84	29
152	S	West Penn Elec.	41	1.70	4.1	2.32My	—	5	17.7	73	18
82	O	West Penn Power	62	3.00	4.8	3.47De	6	3	17.9	86	26
13	O	Western Lt. & Tel.	44	2.00	4.5	3.31My	9	6	13.3	60	27
32	O	Western Mass. Cos.	23	1.20	5.2	1.66My	—	—	13.9	72	18
134	S	Wisc. El. Pr. (Cons.)	42	1.80	4.3	2.86Ap	21	7	14.7	63	27
48	O	Wisconsin P. & L.	35	1.48	4.2	2.40Ap	NC	7	14.6	61	21
46	S	Wisconsin P. S.	28	1.30	4.6	2.01My	9	5	13.9	65	17
Averages					4.0%		8%	6%	18.4	70%	
Foreign Companies											
217	S	Amer. & Foreign Pr.	7	\$.50	7.1%	\$1.30De	D33%	0%	6.4	38%	\$32
151	A	Brazilian Traction	4	—	—	.58De	D10	—	6.9	—	28
97	A	British Col. Pr.	33	1.40	4.1	2.48De	27	9	13.3	56	36
20	O	Calgary Power	21	.40	1.9	.96De	8	18	21.9	42	6
18	A	Gatineau Power	36	1.50	4.2	1.98De	D22	—	18.2	76	21
16	A	Quebec Power	33	1.60	4.8	2.41De	3	9	13.7	66	26
77	A	Shawinigan Water & Pr. ..	27	.68	2.5	1.45De	D10	8	18.6	47	19

*Deferred taxes resulting from liberalized depreciation are not normalized. If they had been normalized the price-earnings ratio would be higher, and the rate of increase in share earnings would be smaller. D—Decrease. NC—Not comparable. A—American Stock Exchange. O—Over-the-counter or out-of-town exchange. S—New York Stock Exchange. Ja—January; F—February; Ma—March; Ap—April; My—May; Je—June; Jy—July; Au—August; Se—September; Oc—October; N—November; De—December. b—Also 3 per cent stock dividend (paid January 25, 1960) included in the yield; similar dividends are paid annually, representing balance of earnings. c—Also stock dividend in 1959. e—Also regular annual 3 per cent stock dividend (paid each year end) included in the yield. f—Also regular stock dividend of one-half per cent quarterly included in yield (paid since 1956). h—Also 2½ per cent stock dividend paid December 1, 1959, included in yield; stock dividends are paid annually, reflecting balance of earnings.



What Others Think

New York Telephone Association Convention

THE New York State Telephone Association held its thirty-eighth annual convention at Scaroon Manor, Schroon Lake, New York, in the latter part of June. A record 486 persons gathered at the manor (representing 76.2 per cent of the active member telephone companies) to hear a variety of speakers. The address of welcome and the keynote speech was delivered by retiring association president Albert N. Seward of the Jamestown Telephone Corporation.

Mr. Seward stated that during past years stress had been laid on the building of a better association and maintaining sound public opinion and high ideals. He noted that the association had not achieved all of its goals but that it is working toward these ultimate achievements. Mr. Seward pointed with particular pride to the work that had been done by the intercompany operations committee. This group is responsible for solving problems and making recommendations for operating practices between independent companies and the largest connecting company, New York Telephone Company.

Private enterprise has made the telephone industry great, Mr. Seward stated, and every private citizen should be opposed to the federal government entering

into competition with private industry. He charged that the American people have become complacent and that day by day the government regulates more and more of our lives. This will only be corrected when the population wakes up and demands that the government be, in Lincoln's words, "of the people and for the people."

THE 10 per cent telephone excise tax was singled out as one of the unfair areas of government operation and Mr. Seward suggested that it would be quite as logical to levy such a tax on legal fees, requiring lawyers to collect and send this tax money to the federal government at the end of each month. In reference to taxation Mr. Seward stated:

Taxes are kingpin when we consider whether we work, where, when, and how much we work. Taxes dominate in such private and intimate things as who we marry, when we marry, or how we unmarry. Four things are out of gear. Rates are too high, there are too many loopholes, the law is too complicated, and enforcement is not complete. Favors done to one group means all others must pick up the tab. Labor unions are examples of organizations

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that do not pay taxes, so are co-operatives and mutual insurance companies. Higher taxes would be bearable if they were equitable, understandable, and enforceable. . . .

In conclusion Mr. Seward stated that it is of paramount importance that the independent segment of the telephone industry stick close together for mutual benefit and protection. He extended his thanks to the members of the association for the consideration and co-operation proffered during his term of office.

THE executive secretary of the New York State Telephone Association, Hamilton A. Cunningham, called to the attention of the convention members the broad scope and functions of the association in his report. He stated that the group insurance program continued to be an important service to more than half of the member telephone companies. And he stated that plans to broaden and extend the insurance program are now under study.

New York state legislative activities, of interest to the telephone companies, were outlined, but Mr. Cunningham stressed that far more important than bills passed were the hundreds of bills which were killed or held in committee.

Special notice was given to the 10 per cent New York state tax on telephone service, which would have gone into effect had the federal excise tax lapsed. Mr. Cunningham was especially critical of the administrative problems associated with this tax. He observed that the telephone industry in New York state is now in the awkward position of having to say that the industry is better off under the federal tax than it would be under the state tax.

He stated:

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. . . We must, in effect, assume the unpalatable rôle of favoring the imposition at federal level of a tax which we know to be unfair, unjust, and discriminatory because the same tax imposed at state level is even more iniquitous. . . .

If the state telephone tax should become operative, Mr. Cunningham stated, every business in the state of New York would at once be placed in an unfair competitive position with every other business and wage earner in every other state.

MR. CUNNINGHAM also spoke on the subject of profit and the telephone business. He contended that the majority of the general public fails to have any notion of how essential profit is to the telephone industry. Many people consider that any profit above a bare minimum is a bad thing and they fail to realize that profit benefits the customer, the community, the state, and the nation.

There has been a reluctance, Mr. Cunningham noted, on the part of the telephone industry to talk about profits and he believes that the time has come to speak out regarding the need for more reasonable earnings for the telephone companies. Regarding profits, Mr. Cunningham stated:

. . . We're in business not only to provide good telephone service, but to provide it in such a way that we make money! And we need more than just enough to get by—we need profits substantial enough to permit us to grow and to improve service—profits comparable to earnings of firms in nonregulated industry. It costs very little more to go first class; and, a first-class telephone company cannot have second-class earnings! Given a good prof-

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it, in the long run we will be able to give better service at a low cost.

It was noted by Mr. Cunningham that the telephone industry is now feeling increased competition. Competition comes to this industry, despite popular notions, through such avenues as the labor field and the financial competition for capital. A more subtle area of competition is the need to gain a greater share of the consumer's discretionary spending dollar. This means supplying more service than just the initial telephone installation. In other words, color telephones, extension lines, and such are added services, but it must always be considered that these added conveniences are in competition with hi-fi sets, power mowers, and other similar discretionary items. This demands that the telephone industry continue to expand and improve service, Mr. Cunningham stated. And in order to do this profits are essential.

MR. CUNNINGHAM called for a new public climate that would recognize the changes in economic and social conditions since the ground rules of regulation were laid down many years ago. It is his belief that the telephone company needs "elbow room" and freedom to take risks. He reflected that risks are an old story to the telephone industry and that proper decisions can result in better service at lower rates. The enforcing of low profits on a company, in order to hold down prices, is damaging to the industry and it is also damaging to customers. Management incentive is destroyed and the company is forced to walk down the road of expediency rather than the path of sound, long-range planning.

Mr. Cunningham stated that it is essential that the telephone industry be convinced of the need and value of good

profits. Unless this conviction is strong, he believes that it will be difficult to give the public a clear picture of what good profits can do for them. Profit, progress, and performance are inseparable, Mr. Cunningham stated, if we are to avoid inflicting upon future customers a burden which should have been assumed today.

THE threat of nuclear attack and some of the effects such an attack could have on the nation and the telephone industry were the subjects of the address given by A. P. Hammel, assistant vice president of the New York Telephone Company. Mr. Hammel has just recently been on a special assignment with the state of New York as chief of staff of the governor's committee on protection from radioactive fall-out. He stated that, regardless of political or military background, all agree that the best defense against nuclear attack is to avoid having one. Avoiding the annihilation of our population is the chief concern and there are four major avenues of approach concerning this ever-present threat.

The first and most dreamed about would be the establishing of an international climate of understanding and freedom from tensions in which there would be no reason or incentive for one nation to attack another.

Secondly nuclear catastrophe can be avoided by defensive military action which could block an attack. In this context early warning systems, such as the Dew Line setup, are essential and, of course, the communications industry is most familiar with its commitments to such preparations. Most experts agree, Mr. Hammel stated, that America cannot, at least at the present time, rely on being able to beat off a nuclear attack if it should be attempted.

The third method of avoiding a nu-

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clear attack is to discourage such an attempt by the certain knowledge that an aggressor nation would be devastated by a massive retaliatory blow. This demands that we have the constant ability to strike such a retaliatory blow under any and all circumstances, including the possibility that the retaliatory system itself has been subject to surprise attack.

THE fourth way of avoiding nuclear attack is to prepare ourselves to withstand and recover from a nuclear blow. In effect, this method backs up the previous three.

Mr. Hammel stressed that the ultimate aim of nuclear weapons is the destruction of people; and the object of defense measures is to save people. Nuclear attack itself, and its effect on the population, is divided into the blast effect and the radioactive fall-out which follows. The initial blast area could cover distances of 10 to 15 miles. And most experts agree that there is little practical protection in this "ground-zero" area. Mr. Hammel noted, however, that the subsequent fall of radioactive particles would endanger any survivors who were not adequately protected. He estimated that if New York state were subjected to a nuclear attack, from 8 million to 15 million persons (out of 16.5 million) could survive if they had simple knowledge and modest facilities for protecting themselves.

In reference to the fall-out danger, Hammel stressed the following four points: (1) The intensity of fall-out radiation declines rapidly with the passage of time. Thus, protection is urgent in the early period following a blast. (2) Radiation intensity diminishes rapidly with distance from the fall-out material. (3) Very common materials can be used as highly effective shields against fall-out

radiation. Sufficient layers of concrete or earth can be effective. (4) In places far enough from the detonation area, people can seek shelter before the radiation fall-out descends.

He stressed that a good many commercial buildings already have "built-in" shelters because of their construction. In this connection Mr. Hammel stated:

No doubt you begin to surmise that many of our telephone buildings are so constructed that they already have fairly good fall-out protection. This is true. A typical medium or large equipment or office building of masonry construction, and with a basement, usually contains considerable ready-made fall-out shelter space. As a class telephone buildings and telephone people, therefore, start out with a better than average built-in protection.

IT was noted that fall-out, excluding blast damage, has little effect on telephone equipment. It does not affect cable or wire above or below the ground, nor does it affect switching equipment, electronic gear, or other components of the physical plant.

Mr. Hammel suggested that forward planning steps should be taken now and he urged consideration of the following: (1) the acquiring of a knowledge of the fall-out hazard and the procedures to minimize injury; (2) survey telephone properties to identify those which would afford fall-out protection; (3) designate fall-out shelter areas making full use of existing protection and improving it where it is needed; (4) plan so that new construction will meet minimum shelter requirements; (5) consider the possibility of providing minimum habitability for a period of a few days up to several weeks; (6) work out a plan of action

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for survival and recovery of service in the event of an attack.

Mr. Hammel stated that many companies, including the Bell system companies, already have done preliminary work along the general lines outlined above. He stated:

It is quite clear that protection from radiation is likely to become a way of life with us as well as, perhaps, an ultimate way of living. We in the telephone industry are traditionally out in front in thinking and planning ahead to meet new conditions, and this one is

no exception. We can do much not only for ourselves but, as always, in the interest of the community.

Mr. Hammel concluded his address by stating that survival of large portions of the nation would be possible with proper protection and that all authorities agree that such conclusions are not overoptimistic but realistic.

KARL T. DUTSCHMANN, vice president of the New York Telephone Company, spoke to the convention on the subject of "Reflections on the Road Ahead."

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He confined his address to the areas of "service," "profits," and "community relations."

IN the area of "service" he stated that what may be good service standards for today may be wholly inadequate in the future. This forces the industry to plan ahead so that the needs of customers are anticipated. Therefore, the industry is now engaged in expansion of direct distance dialing, improved billing mechanization, improvement of transmission, and other related activities.

In the area of profits Mr. Dutschmann believes that there is a great future market in the transmission of data and closed circuit TV. Along with aggressive selling and marketing, proper attention must be directed to an intelligent approach to expense control.

Community relations demand, Mr. Dutschmann observed, that the industry keep legislators informed of its feelings regarding various vital matters after they are in office. He stated that all too often persons will put in time to see that an individual is elected and then will fail to keep the legislator informed of views relating to import issues. He stated as follows:

... if there is one conclusion to be drawn from the look ahead it should be this—that in serving the public we must be more effective in the future than we have been in the past in all of our activities. By so doing we will not only be discharging our duties as managers of an important industry, but we will contribute much to preserve our way of life.

World Water Problems

RECENT months have seen an increasing concern and interest in available sources of water. A number of sobering reports have indicated that the United States, in the not too distant future, will be faced with a real water shortage. Congressional legislation has sponsored a number of test desalting plants in an effort to find an economically feasible method of producing potable water from the sea or from brackish inland water.

The world-wide scope of this problem, and many of our own pressing needs, has recently been spotlighted by an article entitled "Water . . . the Problem That Needn't Be," which appeared in the July 19th issue of *Look* magazine.

In this article staff writer Leonard Gross states that more than 1,000 communities in the United States were forced to curtail water use in one recent year. He notes that in most of the United States

water shortages have been little more than annoying but that in the years ahead we may be troubled by real droughts and health problems due to water pollution and shortages.

With respect to water supply and use, Mr. Gross states:

Our water problem is not complicated. A simple comparison explains it. In 1900, we used 40 billion gallons of water daily. This year, we will use 312 billion gallons daily, enough water to cover Rhode Island a foot deep. By 1975, the Commerce Department estimates, we will be using 453 billion gallons of water a day—just about all that our present facilities provide. Since resources and facilities are not evenly distributed, certain areas of the United States at this point would not have enough water to survive.

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HOWEVER, our water problems, bad as they may seem, appear to be insignificant when contrasted with such nations as Israel and Jordan. Similar areas in the world also suffer from their arid climates and Mr. Gross notes that a good many political conflicts have as their basis a lack of potable water. Flood-control projects, more adequate use of existing water facilities, all would help correct this situation. The real dream, however, is for some process for making salt water sweet.

Mr. Gross notes that research teams are now at work in the United States, the United Kingdom, the Netherlands, Israel, and the Union of South Africa in an attempt to discover the best scientific method for salt water conversion. It is Mr. Gross' belief that discovery of an economically feasible method could have a greater impact on the world than atomic energy. Already costs per thousand gallons have dropped from \$5 to \$2. The ultimate goal is 20 cents per thousand gallons, at which price irrigation use of converted water would be practicable in some countries. One of the interesting geographical factors, Mr. Gross notes, is that arid areas often occur next to coast lines. It is estimated that if Australia could be irrigated by desalted water the world's food supply could be increased 25 per cent.

Various other techniques of solving the water problem are also outlined. In Israel for instance engineers are now coating lakes with layers of chemicals to retard evaporation and they have cleaned up river heads, found new springs, and, in general, made "every drop count."

In Israel an inventor by the name of Alexander Zarchin holds out the dream of the first really low-cost water desalt-

ing process. Mr. Gross points out that a great deal of controversy rages about Zarchin and his desalting invention. Mr. Zarchin is a native of Russia, immigrating to Israel some thirteen years ago. He tried for several years to interest the Israeli government in his project, but received no results. Then, about three years ago, he interested David Ben-Gurion in his invention through a favorable study of his desalting plan, which had been made by the University of California in 1953. About two years ago the Israeli government's ministry of development invested 15 per cent of its total research budget in Zarchin's project. Work on the pilot project has been conducted in secret, on Zarchin's insistence.

ISRAEL, which is short of funds, has taken the Fairbanks Whitney Corporation on as a partner with the government in the development of this project. Plans are completed for a full-scale demonstration plant and predictions of water costs are greatly below the most lavish estimates of U. S. desalting experts. Doubt still exists in many minds, Mr. Gross notes, that water can be produced at the level Zarchin aims at. Mr. Zarchin has predicted that water can be produced at less than 20 cents per thousand gallons, which, Mr. Gross observes, would be "akin to prime steaks for a quarter."

The *Look* article is a most interesting overall view of the water shortage problem and the steps that are being taken throughout the world to alleviate it. The notes on Alexander Zarchin's project are most interesting, and his insistence on secrecy lends a certain excitement to the project. A good many water-hungry nations will watch with keen interest for the results of his invention.

PUBLIC UTILITIES FORTNIGHTLY

Notes on Recent Publications

A STUDY of the structure of the modern metropolis and its geographical and economic setting in the United States has recently been published for Resources for the Future, Inc., by The Johns Hopkins Press. The research was done by a group at the University of Chicago.

The author, Otis Dudley Duncan, and his coauthors believe that the ties between metropolis and region are so diverse and complex that the widely held concept of a great city with its contiguous hinterland does not come near to explaining the full relationship. They conclude, instead, that different functions of a modern metropolis may have primary links with different outlying areas, perhaps in distant parts of the country or, in a few instances, the whole country. Throughout their study they emphasize the interrelationships of urban location and growth with the location of natural resources.

On the basis of theories and methods developed during the research, "industry profiles" have been constructed for 51 standard metropolitan areas. Each profile characterizes a city in terms of its dominant productive activities, sources of its economic inputs, and location of markets for its outputs.

The author is research associate in human ecology (associate professor) and associate director of the population research and training center of the University of Chicago. William Richard Scott is assistant professor of sociology and medicine at Stanford University. Stanley Lieberman is instructor in sociology at the University of Iowa. Beverly Davis Duncan is research associate, population research and training center, University of Chicago. Hal H. Winsborough is research assistant, population research and training center, University of Chicago.

METROPOLIS AND REGION, by Otis Dudley Duncan, W. Richard Scott, Stanley Lieberman, Beverly Duncan, and Hal H. Winsborough, published by The Johns Hopkins Press, Baltimore 18, Maryland; pp. 600. Price, \$8.50.

THE Middle West Service Company has recently issued a publication, entitled *A Survey about Women Employed in the Utility Industry*. In 1959 the Middle West Service Company contacted all privately owned class A and B electric utilities and all gas utilities serving 5,000 customers or more. Some 139 electric companies and 141 gas utilities replied to the inquiry and the survey is based on these findings.

The general subjects covered by the survey are the following: employment patterns, women employed by job classification, age distribution of women employed, marital status of women employed, earnings distribution of women employed, and women as utility stockholders.

A SURVEY ABOUT WOMEN EMPLOYED IN THE UTILITY INDUSTRY, prepared by the Middle West Service Company, 20 North Wacker drive, Chicago 6, Illinois; pp. 41.

ANOTHER recent publication of the Middle West Service Company is *Market Analysis of Common Stocks and Significant Financial Data of Electric, Gas, and Water Utility Companies*. This publication is an assembly of significant financial data, ratios, and market information for electric, gas, and water companies. Figures and ratios are compiled in a form designed to serve as a ready reference. Consolidated figures are shown for holding companies; in addition, individual company figures are tabulated for principal subsidiaries of holding companies.

Company data are also tabulated by utility groups in the following order: electric, natural gas pipeline, natural gas retail, holding companies, principal subsidiaries of holding companies, and water.

MARKET ANALYSIS OF COMMON STOCKS AND SIGNIFICANT FINANCIAL DATA OF ELECTRIC, GAS, AND WATER UTILITY COMPANIES, available from Middle West Service Company, 20 North Wacker drive, Chicago 6, Illinois; pp. 82. Price \$10.

The March of Events



Gulf Drilling Accelerates

DRILLING for gas and oil in the Gulf of Mexico is accelerating despite the problem of increased costs and the big capital investment entailed. While there is still a glut of oil, gas is in a period of rising demand and is thus much sought after. Offshore drilling has become especially alluring inasmuch as the odds are only three to one in hitting a productive well while onshore attempts are lucky if they result in one well out of nine tries.

Cost of leasing rigs has gone up, but improved methods of drilling make it possible to complete wells faster than hereto-

fore. Biggest problem of developers is that of tying up a lot of money for several years until sufficient gas reserves are obtained that will justify an offshore pipeline. Also considerable time is required to secure Federal Power Commission approval of a sales contract. As a typical example, M. S. Kendrick, manager of offshore operations for the CATC group (Continental Oil, Atlantic Refining, Tidewater Oil, and Cities Service companies), said his companies made an investment of \$38 million in the West Cameron offshore area before a pipeline project was approved.

Alabama

Sets Temporary Rate of Return

THE Federal Power Commission has set a temporary rate of return of 6.52 per cent for the Southern Natural Gas Company because it had not decided on what rate to allow permanently on the value of the company's production properties.

The company had asked for a boost of \$7,756,000 in its wholesale natural gas prices, but, in view of the FPC ruling, this will have to be scaled down. If allowed, it would have given Southern a 7 per cent rate of return on both its pipe-

lines and production properties and included an allowance for intangible well-drilling costs, and an amount to cover taxes the company might have to pay if it did not receive a tax-saving deduction for depletion.

The FPC worked out an average rate of return of 6.52 per cent pending its decision on how much it would allow on the value of the company's production properties and after it had had time to consider the drilling costs and depletion allowance provisions included in the rate increase application.

District of Columbia

Transit Bill Enacted

THE metropolitan Washington area has a new rapid transit law signed by President Eisenhower that is designed to provide subways and an express transit system to combat the mounting congestion of auto traffic.

The new law is the result of a mass transportation survey of the area which recommended such a solution to the problem. Under it a new federal body, the National Capital Transportation Agency, is to be set up. However, this body must

seek congressional approval on all its projects and the money to pay for them.

Representative Broyhill (Republican, Virginia), whose name appeared on the final version of the law, states that its enactment means the first real step forward toward a concrete, positive plan of action.

It is hoped in "District" circles that the new agency will make some definite recommendations to Congress next year so that tangible progress may be made toward a rapid transit system.

Florida

Electric Companies' Pact OK'd

LAST February Florida Power Corporation and Tampa Electric Company filed a copy of a territorial agreement they had made with the Florida Railroad and Public Utilities Commission. The companies considered the action merely one as a "matter of information," but the commission held a different view. It said approval of such an agreement was needed.

Giving its reasons, the commission said that as part of its jurisdiction, it is specifically authorized to require repairs, improvements, additions, and extensions to the plant and equipment of any public

utility reasonably necessary to promote the convenience and welfare of the public and secure adequate service or facilities for those reasonably entitled thereto.

Thus, stated the commission, any agreement between two electric utilities which has for its purposes the establishment of service areas between them will, in effect, limit to some extent the commission's power to require additions and extensions to plant and equipment. For this reason, it concluded, such limitation can have no validity unless it is approved by the commission. However, the commission did approve the companies' territorial pact on July 1st.

Illinois

Atomic Plant Hits Full Power

At the end of June the Dresden nuclear power station, first full-scale, privately financed, atomically powered generating station in the world, achieved its full power output of 180,000 kilowatts for the first time. This amount of power is sufficient to meet the needs of a city with a population of more than 200,000.

Dresden is located about eight miles from Morris, Illinois, and was built by the Commonwealth Edison Company and Nuclear Power Group, Inc. It produced its first electricity April 16, 1960. Cost was approximately \$45 million, \$30 million of which was paid by Commonwealth Edison, which also provided the site and overhead costs at \$6 million more.

THE MARCH OF EVENTS

The electrical output from the station is fed into the Commonwealth Edison interconnected network serving Chicago and northern Illinois.

Underground Gas Storage OK Asked

THE Northern Illinois Gas Company has applied to the Illinois Commerce Commission for approval to develop an underground storage reservoir in the Crescent City area. The site, which consists of 7,500 acres, is located about 25 miles south of Kankakee, which was first probed for oil without success.

M. G. Markle, vice president in charge of engineering for the gas company, said studies of the site showed that the inverted saucer-shaped St. Peter sandstone stratum found at the 1,200-foot level, which is covered by 600 feet of solid rock, is ideal for developing a successful natural gas storage reservoir.

It is estimated that the Crescent City storage reservoir will have a capacity that will enable Northern Illinois to draw about 100 million cubic feet of natural

gas daily during the cold weather months when demands for gas exceed the available pipeline supply.

Refund of \$500,000 Ordered

A CIRCUIT court has ordered the Alton Water Company to refund \$500,000 to its 14,000 customers. The money represents funds collected during an 11-month period in 1958, during which a 47.5 per cent rate increase was in effect. This increase was subsequently overruled.

Circuit Court Judge Monroe said the \$500,000 represented both principal and interest at a legal rate for the time the money was held by the water company. The Illinois Commerce Commission granted the disputed rate increase effective January 1, 1958. The decision was appealed and Judge Monroe set aside the rate increase in November of 1958. Subsequently, the Illinois supreme court upheld the decision of the lower court and ordered the funds collected returned to the water company's customers. The Alton Water Company is a subsidiary of the American Water Company.

Maryland

Urges Cut in Phone Rates

PEOPLE'S counsel, Rudolph A. Carrico, has urged the public service commission to reduce telephone rates while it considers the present application for an increase. He contended that Chesapeake & Potomac Telephone Company, which is presently asking for a \$13.5 million

annual rate increase, is now earning more than 6.25 per cent on its investment.

One of the key points of the rate request by the C&P is that it has asked for a rate base reflecting the current dollar value or "fair value" of its property, instead of original cost less depreciation. On that basis, the company said, its rates should be set to yield 7.25 per cent.

Massachusetts

Gas Lack Seen

MORTIMER P. GRIFFITH, vice president of Nega Service Corporation, told

the Oil Imports Board in Washington, D. C., that in the event the weather gets extremely cold and stays that way next

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winter, eastern Massachusetts will face a gas shortage.

He asked that his company be granted a quota of 1,100 barrels of crude oil daily or unfinished oil products which

would be converted directly into gas for consumption by homes and industry. The Nega Service Corporation is owned by New England Gas & Electric Association, an eastern Massachusetts utility group.

Montana

Noxon Dam Dedicated

ALTHOUGH the Washington Water Power Company's Noxon Rapids dam on the Clark Fork river in western Montana, a few miles east of the Idaho boundary line, has been operating for some months, the official completion of the plant was celebrated with a dedication ceremony July 9th.

The hydroelectric giant cost an estimated \$87 million and boasts a 190-foot-high concrete and earth fill dam, plus a 38-mile-long reservoir. Noxon is 125 miles from Spokane.

The new hydroelectric power project is expected to provide enough energy to make the Washington Water Power Company self-sufficient in meeting the power needs of its customers.

Kinsey Robinson, board chairman of the company, was the lead-off speaker at the dedication ceremony. He spoke on the topic, "Our Part in Montana's Future." George M. Brunzell, president of Washington Water Power, and Hugo Aronson, governor of Montana, also shared speaking honors on the dedication platform.

New York

Gas Rate Boost OK'd

THE public service commission has authorized a 20-cent increase in the Brooklyn Union Gas Company's minimum monthly charge. This change is part of a new tariff setting uniform rates throughout the utility's territory in Brooklyn, Queens, and Staten Island.

The increase will affect about 350,000 of the company's 1.1 million customers. The monthly minimum charge for all

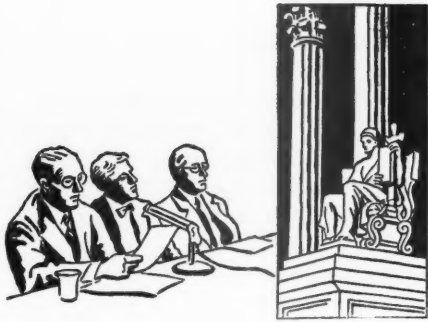
three boroughs has jumped from \$1.15 to \$1.35. Included in the new rate schedule were some reductions, too. Customers in Brooklyn and Queens who use at least 40,000 cubic feet of gas a month were given a \$4.88 a month reduction. And in Staten Island, the reduction for 40,000 cubic feet use amounted to \$1.82. All in all, the PSC said the new rates should result in a net saving of \$1,059,000 to the company's customers.

Texas

Gas Rate Hikes Denied

THE Federal Power Commission has rejected natural gas rate increases sought by two wholly owned subsidiaries of Houston Corporation. The FPC contended that the two companies' rate plans did not conform to conditions they were told in 1956 they would have to meet.

The two companies, Coastal Transmission Corporation and Houston Texas Gas & Oil Corporation, want to raise their rates by a total of \$3,682,770 a year. Both asked the FPC to remove the conditions on their rate schedules so that they could resubmit rate increase proposals later.



Progress of Regulation

Trends and Topics

Return Allowance for Construction Program

RATE increases are never granted to pay the cost of future expansions, the Florida commission recently observed; they are allowed for the purpose of giving the utility an opportunity to earn a fair return on property devoted to the public service (29 PUR3d 29). The utility furnishes the capital with which to provide the necessary plant and the ratepayer, for his part, pays a return on the investment.

While this states the rule, it appears that commissions sometimes give particular consideration, in the rate-making process, to the fact that a company may be undertaking a substantial construction program. The company's special need may be recognized in the attraction-of-capital concept as a part of the allowable rate of return (discussed in PUBLIC UTILITIES FORTNIGHTLY, October 22, 1959, at page 737); or an offset may be justified for the depressing effect of construction on the rate of return; or new construction may be promptly included in the rate base. Another point of view holds, alas, that a company may simply have to look forward to a declining rate of return during a period of heavy investment.

Adjustment for Depressed Return

The California commission recognized the depressing effect that new construction would have on a gas company's rate of return, "unless recognition is given to the actualities." The company had completed a new pipeline during the test year, and it would be in operation during the full first year after new rates became effective. It was estimated that the new facilities would cause a downtrend of .63 per cent in the rate of return. The commission, therefore, set the rates at a level of 7.13 per cent on the adopted results for the test year in order to enable the company to earn a 6.5 per cent rate of return in the immediate future (20 PUR3d 267).

The normal practice is to exclude from the rate base construction not yet in service where interest is capitalized or where contemplated revenues associated with such construction are not recognized. There seems to have been some departure from this rule, or at least it seems to have been strained

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somewhat, in the interest of correcting for the depressing effects of a construction program on earnings.

In view of an electric company's need for continuing and financing a large construction program, among other considerations, the District of Columbia commission included in the rate base construction in progress. The company pointed out, in support of this allowance, that construction of new facilities in a period in which the need for construction is constant is, in effect, a part of the cost of rendering continuing service (8 PUR3d 76).

In several recent cases the Kentucky commission has recognized the necessity of offsetting the depressing effect of a construction program by making an appropriate adjustment in the rate base (18 PUR3d 113; 21 PUR3d 394; 22 PUR3d 113).

The Minnesota commission observed that a telephone company's earnings would fall below the rate necessary for it to carry on its business and attract capital for needed construction unless consideration was given to the increased investment made by the company during the period in which new rates were to be in effect. Due allowance, it pointed out, must be made for the effect of large-scale construction on the rate of earnings. A substantial part of the total construction program, representing completed construction and contracted construction, was taken into consideration in fixing the rate base (2 PUR3d 33).

A construction program is important in any consideration of the rate of return which a utility should be allowed to earn, even in a temporary case, the Maryland commission declared in a rate proceeding involving a gas and electric company (78 PUR NS 474).

Special Return Allowance Denied

Contemplating capital expenditures, a water company requested the Connecticut commission to allow a considerable sum, over and above 6 per cent on its claimed rate base, in order to afford a return on property which it intended to dedicate to public service. It is elementary, said the commission, that the financial position of a public service company must be sufficiently sound to enable it to attract new capital as required to finance necessary plant expansion, but this does not warrant a return on property that is not presently dedicated to public service (20 PUR3d 285).

In a later water case before the same commission, a return of 7.7 per cent on presently dedicated property was sought on the ground that because of planned capital improvements the rate base would gradually increase, resulting in a reduced rate of return. The commission similarly refused this request, pointing out that present ratepayers were being asked to pay higher rates than were otherwise warranted, on the mere premise that they would be served in the future by an improved and expanded plant (22 PUR3d 444).

While the Michigan commission found a proposed expansion program of a telephone company a desirable one, it, nevertheless, refused to grant any increase in rates on account of the program for the reason that the evidence of the effect on the company's operations was a mere forecast or projection,

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and not based on actual expenditure or investment. To grant a rate increase to finance expansion would amount to subsidizing the construction program and the anticipated customers to be served, at the expense of existing customers, the commission explained. An adequate overall rate of return should enable the company to secure financing to start its proposed construction. It was noted that the process of regulation is a continuing one, and that if the company's rate of return should decline because of the construction program, it may then apply for relief (12 PUR3d 343).

A company is not guaranteed a particular rate of return for any particular year. A reliable guide in fixing rates for the future is the actual operating results over a representative period in the past, the South Dakota commission noted in a telephone rate case. If the company chooses to undertake an unusual construction program in the immediate future, said the commission, it should not expect to realize its usual rate of return during such period. An abnormal increase in plant, which is not a recurring item, may distort the return showing for a year or so until the increase in revenue-producing units can catch up (23 PUR3d 321).

Review of Current Cases

FPC Has Power to Tender Permanent Gas Certificate Upon Application for Contract Term Authority

THE U. S. Supreme Court ruled that the Federal Power Commission has authority to tender a permanent certificate upon application by an independent natural gas producer for a certificate limited in time to the duration of a contract for the sale of gas. Sunray Mid-Continent Oil Company had expressly requested a certificate which would provide for its own expiration on the expiration of a sales contract with a pipeline customer, "so as to authorize applicant to cease the delivery and sale of gas thereunder at that time." The commission tendered an unlimited certificate, which was accepted subject to objection, on review, to its unlimited nature. Sunray contended that the commission was without authority to issue a certificate authorizing more than the whole or some part of the sale covered by the application.

Policy Considerations Affected

The court thought Sunray's contention, if accepted, would have an obviously damaging effect upon the policies of the Natural Gas Act. Under § 7 (b) the commission's approval, based on public convenience, is required before service may be abandoned. If the company were entitled to the limited certificate it sought, it would be free to cease deliveries at the end of the contract term without consulting the commission. Every independent producer would enjoy similar freedom. And contracts might provide for termination in the event of a rate reduction by the commission.

The consequences of Sunray's argument do not stop there, the court noted. The identical provisions of the Natural Gas Act regulate pipeline companies as well as independent producers. If pro-

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ducers can insist on a certificate provision relieving them in advance from the obligation to continue the supply of gas as of a date certain, pipeline companies can insist on a similar provision with respect to sales to local distributing companies. The court observed that local economies might thereby find themselves at the mercy of the pipelines, even though the primary problem that led to the passage of the Natural Gas Act was the great economic power of the pipeline companies as compared with that of communities seeking natural gas service.

Effective Rate Control at Stake

The court pointed to other practical consequences of a more concrete character relating to rate control. If the producer's certificate must expire with its contract, a continuance of service will require a new certificate. Rates may then be filed under § 4(c) of the act for new service. The only power the commission would have, with respect to such rates, would be to bear the burden of proof in a § 5 investigation, show that the rates are unjust or unreasonable, and order new rates. But this procedure is "high interminable."

By contrast, if the certificate remained in force after the termination of a contract, new rates would have to be filed as rate changes under § 4(d). The commission may suspend such rates, order a hearing, whereupon the producer would have the burden of proving that the rates are just and reasonable. If the hearing were not concluded at the end of the suspension period, the new rates could be collected under bond subject to refund.

Sunray based its position primarily on its construction of § 7(e) of the act. This section authorizes a certificate for the whole or any part of the operation, sale, or service covered by the application. The

company urged that the requirement of a finding that the applicant is able and willing to perform the service proposed negates the commission's authority to go beyond the time limitations of the proposal.

The court was unpersuaded. The phrase "the whole or any part" was obviously intended to give the commission power to grant less than the whole of an application, said the court. The company's contention apparently depends on the assumption that the statutory provisions speak only in terms of a specific sale and not in terms of a service in the movement of gas in interstate commerce. Section 7(e) positively indicates that the service which the certificate may authorize is something quite apart from merely specific sales.

The necessary finding under § 7(e) that the applicant is willing to perform the "service" can be inferred from its willingness to enter into a long-term sales contract. "To say that the finding cannot be made in view of the applicant's declared desire to stop and have a look in twenty years as to its continued desire to be subject to regulation, and that this is a limit on its willingness to perform the service that the certificates must respect, is to make effective regulation turn on the desire of the regulated enterprise to be subject to it," the court declared.

Certificate Conditions and Contract Integrity

The commission's power to protect the public interest under § 7(e) by tendering a certificate of unlimited duration, even though a limited certificate is requested, is not restricted to such indirect and dubious methods as refusing all applications for limited certificates or attaching conditions to certificates. Nor does the fact that the Natural Gas Act in general

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preserves the integrity of private contracts preclude the commission from tendering a permanent certificate upon application for a limited one to cover the term of a sales contract. Finally, the court pointed out that the commission has discretion in implementing the protective provisions of § 7(e) to impose the burden of proof on an applicant to show that a certificate should be limited, rather than the commission itself taking on the burden of supporting its issuance of an unlimited one.

Permanent Certificate in Companion Case

In a companion case, the court ruled that the commission had issued a permanent certificate to Sun Oil Company upon an application for a certificate "authorizing the sale of natural gas" under a contract which extended over a term of ten years. At the expiration of the contract, Sun Oil urged that the certificate remained in effect only during the life of the contract and that the company was free to discontinue sales after the expiration of the contract, or to apply for a new certificate for new sales, and file a new sales contract as an initial rate schedule rather than as a rate change. The court disagreed with this view. It sustained the commission's denial of a new certificate and its rejection of "new" initial rates. Such "new" rates were treated as rate changes under § 4(d) and (e).

The court observed that the application did not with any explicitness ask for a limited certificate, and a permanent certificate would cover the contract as well as a limited one. The certificate which the commission had issued did not refer to any limitation of time, nor was the commission's order any more explicit on this point than the application. It referred to the certificate as both authorizing the sale and authorizing a service. No basis, there-

fore, could be found for overturning the commission's view that no limitation as to time was implied.

Dissent Limits Control over Producers

Four dissenting justices distinguished between pipeline companies and independent producers. A pipeline, it was said, performs a service akin to that traditionally performed by public utilities, while the independent producer simply sells a commodity which it owns. The majority's basic error, it was said, is the notion that producers render a continuing service to the public in the same sense as a pipeline or other conventional utility.

The dissent indicated that the Phillips decision (3 PUR3d 129) recognized two separate bases of jurisdiction under the Natural Gas Act: transportation, and sale; that an independent producer engages solely in the latter; and that because of the production and gathering exemption in § 1(b), the commission's jurisdiction attaches only to the act of sale itself, which occurs at the very end of the production and gathering process. Section 7(c) requires certification of sale, among three distinct categories of jurisdictional acts subject to certification, it was pointed out, and nothing in the act suggests that the certification is to be broader than the jurisdictional act which it authorizes. The dissenting justices disputed the majority's views that a sale is really a service and that a perpetual certificate authorizes nothing different than what a producer applies for in seeking a limited certificate to cover a term contract. As to abandonment, the majority's view was said to rest on the erroneous notion that the commission is charged with assuring continuity of service by independent producers. Section 7(b) prohibits abandonment of only two things: jurisdictional facilities, and any service

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"rendered by means of" such facilities. But producers have no facilities, and there need be no apprehension about pipelines since they do have facilities.

The dissenting justices believed that the majority had strained the act in order to reach a result which it deemed more appropriate to effective regulation. They would hold that the commission, in response to an application for a term cer-

tificate, has no authority to tender an unlimited certificate without bearing the burden of showing the necessity for it.

The dissent also expressed the view that a certificate limited in time had been issued in the companion case involving Sun Oil Company. *Sunray Mid-Continent Oil Co. v. Federal Power Commission*, and *Sun Oil Co. v. Federal Power Commission*, June 27, 1960.



Trended Costs and Price Indices Rejected in Favor of Original Cost Figures in Telephone Rate Case

THE Hawaii commission granted a \$1,109,300 rate increase to the Hawaiian Telephone Company. This was equal to an average of 4.8 per cent increase and was calculated to yield a return of 6.7 per cent. The company had requested an increase of approximately \$2,625,800. In 1959 the company had been granted a rate increase calculated to yield a return of 6.5 per cent. The commission observed that the return of 6.7 per cent allowed in the present case reflected the higher costs of money now obtaining and the higher financial requirements of the company.

Reproduction Cost

The company had submitted a "fair value" estimate as to present-day cost of plant on new and depreciated bases. Cost new estimates had been generally made on the basis of cost trends and through the application of price indices. These were related to and applied to the capital investment cost as recorded on the company's books. No field inventory of the physical plant had been made, nor was there a pricing out of such plant quantities on an appraisal basis.

Apparently it was the company's position that some form of a present-day cost rate base would be more appropriate for

rate making. The commission disagreed with the present fair value theory for rate making. It said that, in effect, such a theory would substitute an earning requirement on a hypothetical nonincurred replacement cost rate base, in place of an actual incurred cost rate base. This would not only set the stage for an earning on plant capital base never incurred, but such base would be unstable and would fluctuate with the price level, according to the commission.

Similarly, to the extent that underlying trust indentures are secured by plant investment, the very stability of such security would be in jeopardy during a period of falling prices, for plant additions made at high price levels such as currently are taking place. The level of earnings allowed would no longer be based on dollars of plant investment, but on a lesser present fair value base.

Trended Costs and Price Indices

Fair value capital bases developed by trending and use of cost indices have, in the commission's opinion, the infirmities of failing to accord the ratepayer the advantages that would accrue from a modern designed utility plant, but the fair value base thus developed would charge them for such a plant without the benefits

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therefrom. Furthermore, said the commission, the original cost capital base partakes of the present-day cost base to the extent proper and necessary in a fast growing concern such as the Hawaiian Telephone Company. It believed that the original cost capital base tends to approach the present-day cost base because of the replacement of old plant with new, and because of new plant additions, and both at present-day costs. The commission concluded that it is an unwise and a speculative procedure to depart from a rational and sound approach arising from an incurred cost base, with the probabilities that there is little to be gained and much to be lost for all concerned in such a departure to a fair value base for rate making.

Working Capital

Company testimony in support of a working capital allowance set forth an adjusted capitalization figure made up of debt, capital stock, and surplus. This system capitalization was compared to the depreciated rate base and the difference was said to be the working cash capital requirement. The commission rejected this calculation as a rational basis for the

development of a working capital allowance.

It said that the development, at best, must be viewed as merely a mathematical calculation as to the difference between a capital financial structure and a depreciated capital base that has accumulated over the years, with all that such may imply.

The commission observed that in a rate proceeding it must inquire and attempt to determine if the gross working capital has, in fact, been contributed by the investors and, if not, what part has, since it is only that amount that may be included as a cost burden to be charged against the utility customer in fixing the level of rates.

Dissenting Opinion

Commissioners Moranz and Lycurgus dissented, although they both agreed with the majority in all phases except the rate of return. They believed that a return of 6.5 per cent would be fair and reasonable. They indicated that dissenting opinions would be prepared and made a part of this decision and order. *Re Hawaiian Teleph. Co. Docket No. 1382, Decision and Order No. 1001, May 18, 1960.*



Recoupment of Past Losses Not Permissible

THE Georgia commission, in granting a telephone company increased rates, refused to allow a revision which would have permitted the company to recoup losses it allegedly had sustained by reason of operator costs in connection with dial conversion at an exchange. Regulatory commissions can prescribe prospective rates only. Rate orders look only to the future.

Past losses cannot be provided for in future rates. Neither could the commission recoup from a utility, for the

benefit of the public, past excess earnings.

Income Taxes

On another matter, the commission pointed out that it was also a well-established principle of regulation that only actual income taxes paid, except for income tax savings resulting from §§ 167 and 168 of the Internal Revenue Code of 1954, are allowable as an operating expense. *Re Douglas Teleph. Co. File No. 19332, Docket No. 1467-U, May 23, 1960.*

Surcharge for Gross Receipts Tax Upheld

THE Missouri supreme court upheld a tax adjustment clause in the rate schedule of Kansas City Power & Light Company applicable to its steam-heating operations in downtown Kansas City. The clause permits the company to surcharge local customers for the amount of a gross receipts tax imposed by the city on this phase of its utility business. Customers opposed the clause as being beyond the power of the commission to authorize.

The commission has statutory authority to determine just and reasonable rates which will afford a reasonable rate of return. In exercising this authority, said the court, the commission has power to authorize a utility, as an integral part of its rate schedule, to deal with an item of operating expense in a different manner from other such items as part of a design to accomplish a reasonable total charge for service. Furthermore, the court was of the opinion that the tax adjustment clause constitutes a "rule or practice relating to" a rate, within the commission's statutory province.

Rate Level Remains Fixed

The customers argued that the order was unlawful because it would permit the company to increase or decrease rates without filing new rate schedules, thus precluding interested parties from being heard as to such rate changes. The court observed that the order did "no more than

to permit the company to bill its customers in a particular manner; i.e., to partially itemize customers' bills." The order would result in an automatic adjustment of total customer charges in the event of a change in the gross receipts tax, but did not permit the company to increase or decrease its rates. It merely allowed a proportionate increase or decrease in the tax surcharge. The order fixed the rate level after a full hearing, and no future act of the company could change the effect of the order.

Municipal Rate-making Power

Rejected also was a contention that the order would permit the city to exercise the rate-making power conferred by law exclusively upon the commission. The court pointed out the company's customers must pay their proportionate share of the company's gross receipts tax expense, irrespective of whether their bills are itemized, or whether they pay under the order here complained of or under a new one issued each time there is a change in the tax rate. While the city does determine the proportionate amount of the tax each customer must pay, it cannot be concluded from this that the city determines utility rates. The court found nothing unreasonable in the order allowing the surcharge. *Missouri ex rel. Hotel Continental et al. v. Burton et al.* 334 S.W2d 75.



Cost of Debt Capital Must Be Adjusted When Reproduction Cost Rate Base Used

THE supreme court of Ohio, reversing a gas rate order (25 PUR3d 207), held that the commission, in considering cost of capital, improperly limited the interest component to actual interest re-

quirements. It held that, in determining a return allowance, consideration should be given to a corporation having debt and equity capital in total amount substantially equal to the statutory (reproduction

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cost) rate base. What is to be allowed for interest on the amount of such debt is what would be reasonably necessary to pay interest on that amount of debt, even though the amount allowed may be more or less than what is actually paid by the company on its existing indebtedness.

The commission had allowed only \$14,800 interest on the debt component. The court concluded that such allowance would pay interest on only part of the debt component of the statutory rate base. In reply, the commission argued that in determining the federal income tax of this company no greater deduction was allowed by the federal government on account of interest paid than an amount equal to the actual payment.

The court, however, said that it was obvious, as indicated in *City of Cleveland v. Ohio Pub. Utilities Commission* (13 PUR3d 276) that, in a proceeding such as this, it should not be concerned, in determining the expense allowance for federal income tax liability, with the income tax or the interest actually paid by the company. It should be concerned with taxes on income and interest on debt of a company organized to provide the public with the use of property which has a value equal to the statutory rate base, and that the debt and stock of such a hypothetical company will "necessarily be substantially equal to the statutory rate base."

The court observed that if such a company would pay more or less interest than this gas company actually pays on its debt,

the greater or lesser amount of interest that such a company would so pay should be used as a factor in determining the income tax liability.

The court cautioned that it did not mean to approve or disapprove the commission findings as to the portions of the statutory rate base to be represented by debt and by equity capital, or as to the rate of interest to be allowed on debt, or the rate of return to be allowed on equity capital. Likewise, it said, it did not mean to suggest a specific rate of return.

Dissenting Opinion

Judge Herbert, in dissenting, said that he could not concur in a judgment which would further complicate the statutory requirement of reproduction cost new as the foundation of a rate base by requiring such rate base to be broken into a debt component and equity component and requiring allowance for a rate of interest on such theoretical so-called debt component instead of recognizing the actual requirements of a public utility.

He went on to say that it is difficult enough for the commission to determine reproduction cost new less depreciation without developing a formula breaking that total figure into component parts for the purpose of calculating minimal interest rates for each of these component parts. Judge Weygandt concurred in this dissenting opinion. *Ohio Fuel Gas Co. v. Ohio Pub. Utilities Commission*, 167 NE2d 496.



License for Upstream Dams Affecting Navigable Water

A FEDERAL appeals court affirmed an order of the Federal Power Commission (27 PUR3d 183) requiring the licensing, under the Federal Power Act, of small hydroelectric dams on the Clyde river in Vermont. The court did not de-

termine how much of the river above the first mile from its mouth was navigable water, but at least one mile of it was considered navigable.

The dams were located above the navigable portion.

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It appeared that one of the dams could vary the depth of the navigable water sufficiently to permit a loaded 16-foot boat to float freely or to make it scrape bottom. In the operation of the dams there were changes in total water volume of between 12 and 282 cubic feet per second. The court found that the evidence was suffi-

cient to prove that the dams were capable of affecting temporarily the flow of water in the navigable stretch of the river and that they do so in ordinary operation. On this ground alone the court sustained the commission's jurisdiction. *Citizens Utilities Co. v. Federal Power Commission*, Docket No. 25705, May 24, 1960.



Back Billing for Toll Charges Held Improper And Service Improvement Ordered

THE Mississippi commission ordered adjustments in the rates of Southern Bell Telephone & Telegraph Company, directed the company to improve and extend service, and prohibited back billing. This proceeding arose on a show-cause order relating to these three matters.

Toll Rate Disparity

The commission was "not satisfied with the explanation offered" by the company for the existing difference between the rates for intrastate long-distance calls and the rates for interstate calls of comparable distance. A downward adjustment in the higher intrastate rates for station-to-station, long-distance calls was required, along with a reduction in the rates for private line long-distance service. It was not considered feasible at this time to eliminate all of the disparity in toll rates since revenues lost by further reductions would have to be offset by increased charges for other services.

Minimum Calling Period

Existing schedules provided for a minimum calling period of three minutes on all long-distance calls. The commission observed, however, that a large portion of day calls are of a business nature and are of less than three minutes' duration. Evening and night calls, on the other

hand, are usually personal and last for more than three minutes. Noting additionally that it is the preference of Mississippi subscribers, the commission ordered a two-minute minimum period for all daytime calls and a four-minute period for evening and night station-to-station calls.

Service Improvement Required

The company is under a duty to construct and operate a system adequate to keep pace with the growth of the community or territory it serves, the commission declared. Accordingly, it directed Southern Bell to convert old equipment to modern facilities and to expand service, especially in rural areas of the state "where persons have long suffered for lack of telephone service."

Back Billing and Base Rate Areas

Under an increased rate schedule put into effect under bond in 1956 and providing for expanded rate base areas, the company collected, for three years, less mileage and long-distance charges than it was entitled to under previously established rates. Upon final judicial determination in 1959 that the bonded rates were unreasonable, the company sought to back bill for the uncollected charges. The commission held simply that such

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back billing was improper and unwarranted, even though a refund of excess charges made during the bonded period was required. Elimination of these back-billing charges will result in additional benefits of approximately \$2 million to Mississippi subscribers. To offset revenue losses to the company, small increases were ordered for business rates and non-recurring charges. Rearrangements in rate classifications will not, in any case,

increase rates presently in effect for residential subscribers.

The commission ordered base rate area expansions which apparently conform to such expansions applied by the company under the bonded rate schedules. Obviously, said the commission, as a community develops, the base rate area must be expanded to include new development. *Re Southern Bell Teleph. & Teleg. Co. U-18, May 26, 1960.*



High Operating Ratio Necessitates Transit Fare Increase

IN a proceeding by Salt Lake City Lines to reopen a 1959 rate case in which a fare increase was denied (30 PUR3d 319), the Utah commission found that a continuing loss of riders created an unsatisfactory operating ratio for the company and necessitated a rate increase. For a 12-month period ending in February, 1960, the operating ratio climbed to 98.54 per cent, and figures for the last two months of the period indicated an operating ratio of 101.43 per cent.

The company was authorized to eliminate adult tokens selling two for 25 cents and to charge the presently effective cash fare of 15 cents on a local route. Student tokens selling 13 for one dollar were also eliminated in favor of the established student cash fare of 10 cents. The commis-

sion rejected a proposal to exclude college students from the class of students eligible to ride on this fare. It was noted that Salt Lake City is one of two major cities in the United States where students of college age are afforded a reduced local transit fare. The price of the weekly pass was increased from \$2.25 to \$2.75. The fare for children five to twelve years of age was held at 5 cents in each zone rather than increased to 10 cents as suggested by the company.

The new fares, thus authorized, were calculated to result in an operating ratio of 94 per cent based on a projected 12-month period. The commission considered this ratio within the zone of reasonableness. *Re Salt Lake City Lines, Case No. 4506, April 5, 1960.*



Allocation of Federal Income Taxes for Rate-making Purposes

THE Indiana commission, although satisfied that a water company's general method of docketing its different divisions separately was legally proper and administratively desirable, took exception to the company's method of allocating federal income taxes.

In the case of separate and distinct water systems not physically connected with any other system, the commission

pointed out, such procedure permits the users of one utility property to litigate such complaints as they may have within the framework of that utility and without bearing the onerous burden of becoming involved in company-wide investigation. Nevertheless, the federal income tax allocation based on net operating income of each division before taxes, would be varied by every rate change in any of the

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company's water utility properties. Such allocation would not result in the additional tax being borne solely by the users of a certain division.

Secondly, the commission was confronted with the fact that, by law, it had to limit itself to consideration of the facts as reflected by the record in the particular case which it was considering. It was not at liberty to examine promiscuously matters outside the record, no matter how pertinent it might consider such matters.

Therefore, the commission had determined to hold a further hearing for the purpose of receiving evidence concerning federal income taxes of the company to enable it to determine the pro forma income tax figures to be allocated to the division's operation.

Reasonable Return Allowance

The commission pointed out that cost of capital may properly be considered in

the determination of a fair rate of return. However, cost of money is not synonymous with or the only measure of a fair rate of return. The matter of attrition is also a significant factor, as well as the matter of comparative earnings coverage of interest charges, which affects the company's ability to maintain credit and attract capital on fair and reasonable terms.

Finally, since utilities seeking investment funds are in competition not only with each other, but also with other industries, recognition must also be given to the return realized by nonregulated enterprises attended by corresponding risks and uncertainties.

The commission held that a return of 6.5 per cent on a fair value rate base was reasonable. In determining fair value, a reproduction cost new less depreciation is an element properly to be considered. *Re Hoosier Water Co., Inc. No. 28297, March 25, 1960.*



Court Jurisdiction Sustained in Action to Recover Alleged Overcharges for Special Service

THE Kentucky appeals court ruled that a trial court had jurisdiction to hear a complaint by an electric consumer as to alleged overcharges over a period of years. The consumer, a carnival, had contracted with an electric company for service. Traveling from one place to another, because of the nature of its business, the carnival required repeated installations and removals, connections and disconnections of facilities. For this service the company charged \$1,592.02. The carnival sought to recover an alleged overcharge of \$1,367.02.

First, the customer applied to the commission for a determination of the question, but the commission found that the charges were not unreasonable. No hear-

ing was held and no order was entered. The commission merely addressed a letter to the complainant indicating that it would take no further action in the matter.

Obviously, said the court, the letter did not constitute a final order which could be appealed. The carnival next instituted a court action to recover the alleged overcharge. The court gave a summary judgment in favor of the electric company and dismissed the complaint.

Jurisdiction Not Exclusive

The appeals court reversed the trial court. It pointed out that although the commission has jurisdiction over questions concerning rates and services gen-

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erally, nevertheless, when a question arises which is peculiar to the individual complainant, the courts will assume jurisdiction and hear the matter. Here there was no question as to rates charged for regular service. The controversy related to the charge for connecting and disconnecting service, which was necessarily a recurring charge. The usual subscriber does not make sporadic use of power

service, it was noted, and, consequently, connection charges are of little concern to him. But in this case the contract for service was of private concern to the parties. Under the circumstances, said the court, jurisdiction is not exclusive with the commission, and the case should be submitted to the court for hearing. *Bee's Old Reliable Shows, Inc. v. Kentucky Power Co., Inc.* 334 SW2d 765.



Indiana Commission Criticizes Subsidization Of Deficit Operation

THE Indiana commission, holding that it could not dispute an electric company's legal right to a return on its investment in steam-heat properties used and useful in the public service, criticized the company's practice of subsidizing a deficit operation out of the earnings of a more profitable operation over a long period of time and then suddenly raising rates over 90 per cent in order to bring them to the proper level.

In 1958, the record showed, a 38 per cent increase had been required to bring the steam-heating rates to a break-even point of operation. Such a condition, noted the commission, would have been intolerable to any profit-making organization if it had not been subsidizing its steam-heat service out of electric earnings.

While the decision was one within management's prerogative, it seemed exceedingly poor judgment to permit such a situation to drag on through many years of deficit operation and then to pick up the slack at one bite.

It is true, said the commission, that the steam-heat users had gotten a bargain for many years past as a result of the deficit operation. However, customer dismay could readily be understood when the company sought to make up all the lost ground at one leap.

Despite the criticism, the commission agreed with the company that it could not cut back rates to a break-even point of operations since to require the company to render service at no return on investment would be confiscation. The customer complaint which had originated the proceeding was dismissed.

Since the company was not seeking any affirmative relief, it was unnecessary for the commission to determine precisely a fair rate of return for the steam operations. The evidence showed that a 4.7 per cent rate of return was being earned. Such return, held the commission, was not in excess of a fair return and could not be considered an unreasonable or extortionate profit. *Re Indianapolis Power & Light Co. No. 28086, May 6, 1960.*



Water Extension to Real Estate Not "Speculation"

THE New Jersey commission ordered a water company to extend service to a real estate tract, at its own expense,

and to refund to the developer of the tract the extension costs he had advanced under protest.

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The financial condition of the company reasonably warranted the original expenditure, held the commission. The furnishing of service would constitute sufficient business to justify the construction and maintenance, notwithstanding that the return on the extensions would be considerably less than the overall return on the company's rate base. Extension costs would have a negligible effect on the company's overall return.

The situation was one where the developer had requested the water company to install and maintain mains in four tracts in advance of construction of the

houses and their occupancy by bona fide owners or tenants. Although a utility is not ordinarily obligated to take a speculative stake in the success of a real estate development, pointed out the commission, the speculation had been taken out of the situation when the developer advanced the estimated cost of the extensions under protest and subject to a determination by the commission as to his rights in the matter. The payment under protest did not prejudice the developer's right to obtain a return of the extension costs. *Re Highpoint Develop. Corp. Docket No. 599-11680, May 11, 1960.*



Transfer of Operating Rights Upheld Despite Void Certificate

THE Nebraska supreme court ruled that a proceeding for the transfer of a motor carrier certificate which was initially void was properly instituted under the state's transfer statute rather than the statute governing the issuance of new certificates. The certificate, issued in 1947, had been granted without notice and hearing, contrary to statutory requirements, and for that reason was void. However, up to the time of this proceeding, the holder of the certificate had operated under color of right and in compliance with all laws and regulations. Protestants contended that the application should have sought a new certificate instead of a transfer.

Even where the transfer of a valid certificate is involved, it was noted, the commission is required to find that the operating rights evidenced by the certificate have not been lost through dormancy or for any other reason. Such lost rights can be granted to a transferee under the transfer statute only on satisfactory proof

as required in the grant of a new certificate. It appeared to the court that an application for the transfer of operating rights may in like manner involve a showing that the transferor is entitled to a certificate even though the one he holds is void in that it was not issued as required by statute.

It is only the operating rights which the transferor actually has that may be transferred, irrespective of the validity or invalidity of the certificate, in whole or in part. Such being the case, said the court, an application for the transfer of operating rights obtained under color of right is properly brought under the transfer statute, irrespective of the validity or form of the certificate evidencing the existence of such rights. The court pointed out that it would be a vain procedure to require the issuance of a valid certificate to the transferor only to revoke it in order to issue a new certificate to the transferee. *Re Burlington Truck Lines, Inc. et al. 102 NW2d 450.*

Other Recent Rulings

Ashbacker Doctrine. The U. S. court of appeals held that a prima facie indication of economic mutual exclusivity between consolidated transcontinental applications and routes awarded in an area case require a hearing on the other applications after the CAB has granted a hearing on one of the applications, under the Ashbacker doctrine, since the grant of one route precludes the grant of any other applications. *Delta Air Lines, Inc. v. Civil Aeronautics Board*, 275 F2d 632.

FCC Discretion. The U. S. court of appeals held that the Federal Communications Commission had acted within its statutory discretion when it determined that public interest did not require microwave grants to remain in effect pending final determination of protest proceedings and in postponing construction permits it had granted. *Helena TV, Inc. v. Federal Communications Commission*, 277 F2d 88.

Voluntary Contribution. The Louisiana court of appeals held a landowner was not entitled to a refund of an amount voluntarily contributed to a municipal sewerage water board for extension of a sewer line, notwithstanding that, if the line had been extended into the area before the contribution, the owner could not have been forced to contribute to the cost of the extension. *Jacobi v. Sewerage & Water Board of New Orleans*, 119 So2d 158.

Mandamus Proper Remedy. The Vermont supreme court held that mandamus was the proper remedy to compel a city officer to publish an application for permission to construct and maintain television cables in, over, and along the city's

public streets since the application fell within an ordinance requiring a purely ministerial act leaving no room for discretion. *Rutland Cable T.V., Inc. v. City of Rutland*, 150 A2d 83.

Service Improvement Plan. The Indiana commission authorized a telephone company to implement a service improvement plan which included consolidation of exchanges, establishment of extended area service between exchange areas, institution of suburban zone service, and reclassification of exchange areas to different rate classifications. *Re Indiana Bell Teleph. Co. No. 28419, February 5, 1960.*

Extended Area Service. The Indiana commission authorized two telephone companies to establish extended area service between two exchanges upon a showing that the proposed service would be of advantage to affected subscribers, in the best interest of the communities, and in the public interest due to the community of interest existing between the residents of the areas. *Re Indiana Bell Teleph. Co. et al. No. 28497, February 5, 1960.*

Electric Service. The Indiana commission issued a declaration to an electric company that public convenience and necessity required the construction, ownership, operation, management, and control of a primary electric distribution line at a certain location and of such facilities as were required in order to supply service to all consumers desiring such service who were located within 750 feet on either side of the line and not beyond the terminus. *Re Public Service Co. of Indiana, No. 28539, February 5, 1960.*

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Emergency Rates. The Indiana commission granted a telephone company authority to charge emergency rates at two exchanges until the institution of extended area toll free service. *Re Yoeman Teleph. Co., Inc. No. 28468, February 11, 1960.*

Telephone Service. The Indiana commission directed the Smithville Telephone Company to extend service to a certain area which the commission had previously declared open territory and which two other companies were presently vying to serve, where the absence of service had worked a severe hardship on area residents and, based upon announced trade, social, and commercial communities of interest, the majority of the residents preferred service from the company the commission selected. *Re Harrison Township, Cause No. 28405, February 19, 1960.*

Used and Useful Property. The Connecticut commission held that it did not have authority to permit a return on property which the owner contemplated would be dedicated to public service at some time in the future, since such property was not presently used and useful. *Re New Haven Water Co. Docket No. 9899, June 6, 1960.*

Legal Expense. The Illinois commission disapproved, as an operating expense, a sum of money paid by a water company for legal service during the test year where the money had been paid to an individual who was not authorized or permitted to practice law in the state and, even though the individual might have rendered other services to the company, it was evident that the expense would

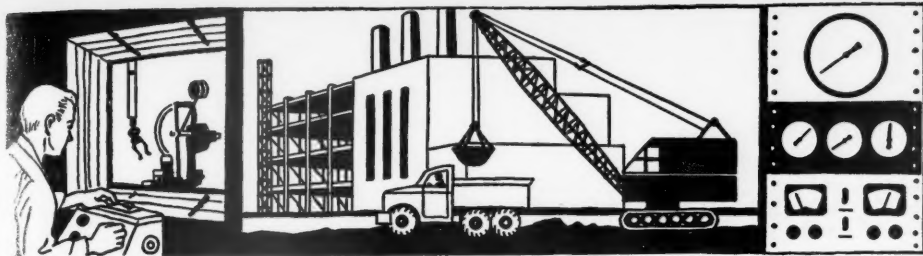
be nonrecurring. *Re Countryside Water Co. of Illinois, No. 46028, April 19, 1960.*

Contemplated Construction. The Connecticut commission held that incomplete and contemplated construction should be excluded from the rate base since a utility is not entitled to a return on property to be dedicated to public service some time in the future. *Re Rockville Water & Aqueduct Co. Docket No. 9894, April 28, 1960.*

Telephone Company Mortgage. The Indiana commission granted a telephone company authority to borrow up to \$210,000 at 2 per cent interest per annum, to be repaid in instalments over a period of thirty-five years, the repayment to be secured by a mortgage upon all property except cash, accounts receivable, and current inventories, in order to finance necessary capital and service improvements. *Re Camden Teleph. Co., Inc. No. 28467, February 19, 1960.*

Imbalanced and Discriminatory Service. The Indiana commission held that one-way free, one-way toll telephone service is discriminatory and creates an imbalance in the natural flow of traffic between two exchange areas. *Re Indiana Bell Teleph. Co. et al. No. 28477, February 19, 1960.*

Land Company Provides Utility Service. The Colorado commission declared a residential land development company a water utility upon uncontradicted evidence that it was providing water service to all who requested service in its general area. *Re Rock Creek Land Co. Case No. 5174, Decision No. 54310, May 16, 1960.*



Industrial Progress

Cleveland Electric Illuminating Has 1,000-Vehicle Fleet

The formula for supplying electricity to more than 500,000 customers requires more than manpower, but plants and distribution lines.

A fourth necessary ingredient is transportation. The Cleveland Electric Illuminating Company's 1,000-vehicle transportation fleet travels 100 miles each week as part of its job of supplying electric service to northeastern Ohio homes, businesses and industries.

The vehicles cover the Illuminating Company's 1,700-square-mile service area in Cuyahoga, Lake, Ashtabula and part of Lorain counties. The fleet traveled over 10,000 miles in 1959.

The vehicles range in size from a three-wheel motor scooter to a \$56,000 portable substation. The mobile substation fills in when stationary units are temporarily out of service. Other big units in the fleet are a 100-horsepower engine scraper which can pick up 24 cubic yards of coal in one bite, and a truck and trailer used to stringing overhead wires at one time.

The vehicles are recognized easily by their color—traffic yellow. This color is intended to provide an extra margin of safety on the highway for the Company vehicle driver and for other motorists.

The Illuminating Company fleet is valued at \$5½ million. It is the offspring of a transportation department organized in 1905 with two gasoline-powered cars, three electric vehicles and a stable of horses.

Operating and maintaining the fleet cost more than \$1½ million in 1959. This includes \$250,000 for gasoline and lubricants. License plates alone cost more than \$73,000.

The company maintains its own fleet of passenger cars. The cars, used

by meter readers, inspectors, supervisors and other employees, are leased for periods up to two years.

Booklet Describes Eimco Crawler-Tractor

THE Eimco Corporation has published a comprehensive 32 page book on their recently introduced 100 HP Diesel Eimco 103 crawler-tractor line.

Full specifications on the tractor, bulldozers, front end loaders and log loader units in this series are included, as are schematic drawings and coded listing of performance and other features.

Copies will be sent upon receipt of requests. Ask for Bulletin L-1097. The Eimco Corporation, P. O. Box 300, Salt Lake City 10, Utah.

Niagara Mohawk Places Giant Analyzer in Operation

A GIANT analyzer that will help maintain economic and efficient electric power system operation and interchange of power with other utilities, has been placed in operation here by Niagara Mohawk Power Corporation, it was announced recently by Gustav F. Watters, executive vice president of Niagara Mohawk.

Mr. Watters said that the analyzer, known as an Economic Dispatch Computer, will result in the highest efficiency in the production, purchase and transfer of electric power with neighboring utilities.

The computer, which has been under test for many months, is designed to represent a mathematical model of Niagara Mohawk's electric transmission system, including major sources of generation, interconnections and electric load areas.

"Installation of this highly complex computer is another step by Niagara Mohawk to place in operation

the most up-to-date equipment in order that we may continue to provide our customers with dependable and low-cost service," Mr. Watters said.

He pointed out that the computer will determine the most economical overall generation schedule for Niagara Mohawk and the New York State Electric and Gas Corporation, known as the Upstate New York Group.

The computer also will provide power billing cost data for the interchange of power between companies in the Upstate Group and other utilities now interconnected with the Group. These are the Hydro Electric Power Commission of Ontario, New England companies, Pennsylvania companies, New York companies, and the Power Authority of the State of New York.

Hagan Chemicals Issues Booklet On Industrial Water Problems

A NEW 24-page brochure, describing the role of industrial water consulting service, has been published by the Hall Laboratories, division of Hagan Chemicals & Controls, Inc., Pittsburgh.

The colorful booklet discusses the whole range of industrial water problems—from pre-treatment to waste disposal—and highlights the necessity for proper water management to obtain lowest water costs.

Many examples of lower water costs are cited in the booklet, as well as case history examples describing process improvements that resulted from more efficient uses of industrial water.

To request a copy of the brochure . . . Hall Laboratories, Industrial Water Consultants . . . write on company letterhead to Hall Laboratories, division of Hagan Chemicals & Con-

(Continued on page 20)

trols, Inc., Hagan Center, Pittsburgh 30, Pennsylvania.

Tower Construction Develops Pre-Built Microwave Building

AFTER many years of experimenting with various types of Microwave buildings, engineers for the Tower Construction Company, Sioux City, Iowa, have developed a factory pre-

built building that is claimed to offer all the advantages of a permanent building plus factory built-in features which cannot be offered in buildings constructed on the site.

These special features include such items as wiring and insulation which are installed prior to shipment.

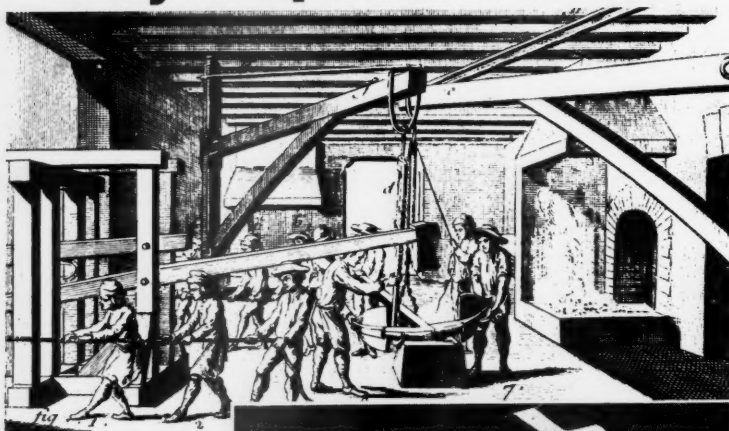
The new type building, the only one ever developed exclusively for use with Microwave equipment, is

currently being used at tower by several pipe line companies public utilities. According to the company the buildings have proved to be superior to the old type concrete prefabricated metal structure in cases, even in areas where climatic changes are severe.

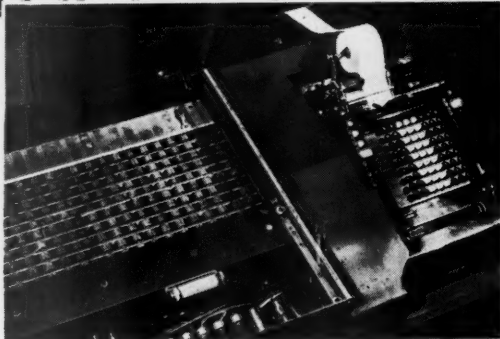
The Tower factory pre-built, a tough metal jacket, can be delivered to the site on trucks or delivered by rail and can be installed in minutes rather than days.

Additional information on Tower factory pre-built Microwave building may be obtained by writing Tower Construction Company, 210 Hawkeye Drive, Sioux City, Iowa.

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Federal Pacific Issues Bulletin Pole-type Capacitors and Capacitor Assemblies

BULLETINS 8145 and 8148 have been published by Federal Pacific Electric Co. covering respectively pole-type capacitors and capacitor assemblies as used by utilities for power-factor improvement.

Bulletin 8145 covers individual pole-type capacitors for outdoor service, 60 cycles. Covered are low-voltage types, rated at 240, 480, and 600 volts with capacities ranging from 7.5 to 25 KVAR, as well as high voltage types, ranging in capacity from through 50 KVAR and in voltage from 2,400 to 13,800 volts.

Bulletin 8148 covers capacitor assemblies, three phase, 60 cycles, both in-line and cluster as well as contour types of pole-mounted ratings being described.

Copies of Bulletins 8145 and 8148 can be obtained from Federal Pacific Electric Co., 50 Paris st., Newark, New Jersey.

Top Public Relations Achievement To Be Honored By Gas Association

THE gas industry's outstanding public relations program during the past year will be honored by the American Gas Association at its 43rd annual convention in Atlantic City, N. J., October 10-12.

Serving as judges in the annual competition for gas companies in the United States and Canada are: Walton Cloke, president of the American Public Relations Association; Kenneth Youel, president of the Public Relations Society of America; and Dean Hale, editor of the American Gas Journal, Dallas.

PUBLIC UTILITIES FORTNIGHTLY—AUGUST 4

INDUSTRIAL PROGRESS—(Continued)

top award last year was won by Michigan Consolidated Gas Company, Detroit, for its dramatic educational show, "Gasarama," originally made for high school audiences and subsequently displayed at major industry meetings throughout North America. It will be featured at this year's AGA convention. Previous winners were Southern California Gas Company, Los Angeles, 1957 and Quebec Natural Gas Corporation, Montreal, in 1958.

Bulletin On New Lightning Arrester

OUR page brochure describing and illustrating the newly designed crystal valve lightning arrester for the protection of power circuits up to 100 kva capacity, has been issued by H. K. Porter Company, Inc., a Star Electrical Division, Chicago, Illinois.

Text, photographs, drawings, and details explain the new arrester's exclusive "Crystallite" valve element, its structure, shorter length, new contour, and its separator. Specifications for reference and ordering include pricing information, approximate dimensions, features, characteristics, and leakage resistance.

Honeywell Develops Solid-State Load, Frequency Control System

The all-solid-state load and frequency control system involving new concepts has been introduced by Brown Instruments Division of Minneapolis - Honeywell Regulator Company.

The modular-built units of the system, which does away with moving parts such as slidewires, motors and relays as well as vacuum tubes, require less than half the space of conventional control equipment.

First deliveries of the system, released by George W. McKnight, utilities market manager for Honeywell's Industrial Products Group, will be made by Philadelphia Electric Company, Iowa-Illinois Gas & Electric Company of Davenport, Iowa.

The Philadelphia installation will be "masterminded" by a Honeywell industrial process digital computer that also will simultaneously compute basic cost data for interconnection billing.

Major components of the system, some of which have been on test since the past year at Niagara Mohawk Power Corporation, include

high-speed frequency-type telemetering equipment, system control amplifiers, governor motor actuators, rate limiters and incremental loaders.

CL&P Dedicates Norwalk Harbor Station

DEDICATION of The Connecticut Light and Power Company's Norwalk harbor generating station, described as "The Best Looking Generating Station in America," was marked recently by brief ceremonies at the station.

Sherman R. Knapp, CL&P president, noted in his remarks for the occasion that the population of Fairfield County has increased 27 per cent in the past decade and the average residential use of electricity had climbed from 2,300 kilowatt-hours to 4,000 kilowatt-hours in the same period.

Commenting on the utilities long standing problem of fly ash, Mr. Knapp said, "Disposing of this fly ash that we collect in the electrostatic and mechanical separators has always been and still is an item of expense. There is a good possibility, however, that we are approaching the time when this waste material will become a by product of value."

Mr. Knapp pointed out that the concrete roadway leading into the plant is made of concrete which contains fly ash and that tests indicate the addition of fly ash improves the quality of the concrete and lowers the cost.

"We hope that before long there will be an increasingly important place for this material in our expanding highway program," he said.

The ceremonies marked the completion of two year's construction at the island which was formerly used as a summer estate and a religious retreat center.

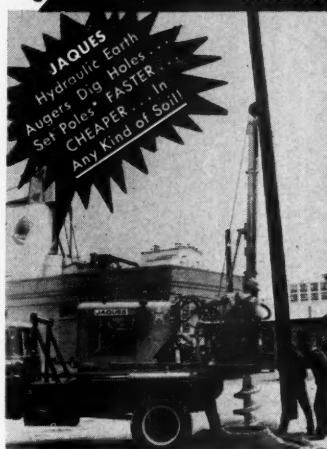
The station is covered with a light blue aluminum siding to blend with waters of Norwalk harbor and is surrounded by attractive plantings of trees and shrubbery.

The station's turbogenerator, designed to produce 150,000 kilowatts, is the second largest in New England. Generating and auxiliary equipment at the station is the most modern available. Electrostatic and mechanical precipitators or dust collectors are designed for an efficiency of 99 per cent and there is virtually no smoke or fly ash leaving the 350 foot stack.

Hollis N. Hugins, of Milford,

(Continued on page 22)

ARMY and NAVY Also Use JAQUES Hydraulic EARTH AUGERS



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ARMY REPORT ON JAQUES KJ-254**

"There was a performance test on Pilot Model (Jaques Earth Auger), Model KJ-254, built by Texoma Enterprises, Inc. This test performed in accordance with Military Specification Mil-A-5168, paragraph 3.9 through 3.9.2.

"This test was performed in sandy, gravelly, red clay, hard and dry to blue silty clay at bottom of hole. Average time per hole for 25 consecutive holes was 78 seconds. Average depth of holes was 67.2 inches. Machine functioned at normal temperature."

**JAQUES newly developed Model TJ-254 is 2 1/2-TIMES FASTER than Model KJ-254!



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former superintendent of CL&P's Devon generating station is superintendent of the new installation and John J. Sugrue of Waterford, is assistant superintendent.

Electronic Model Trains Atomic Power Plant Operators

WORKERS at the Enrico Fermi Atomic Power plant will be extensively trained well in advance of the actual operating date by use of a \$150,000 electronic package recently delivered by Holley Carburetor Co., Warren, Michigan.

The electronic analog simulator and operator training consoles were designed, engineered and manufactured in the recently-formed electro-mechanical division of the company.

"With this training facility now installed at the reactor site, power plant operators are given advanced training on plant operating characteristics before the atomic plant is ready for actual operation," according to N. J. Dann, general manager of the electro-mechanical division. They will learn both normal and emergency operating procedures long before assuming control of the world's largest breeder reactor.

The simulator is an electronic working model of the Enrico Fermi sodium-cooled fast breeder reactor, plus components which convert the reactor's nuclear energy into electrical power. Holley engineers, working with several outside atomic power experts, devoted more than three years to the study and development of the simulator and operator training facility.

"By using the electronic model to analyze plant behavior, we were able to design the plant's vital control system far ahead of its actual operating date," Mr. Dann said. Training consoles which duplicate the control panel layout in the actual plant were built by Holley and interconnected to the simulator.

Hiller To Market New 4-Place Helicopter

A NEW 4-place business and utility helicopter, sister ship of the Hiller 12E, widely used in construction, patrol and maintenance by utilities, will go on the commercial market this fall, according to an announcement made by the Hiller Aircraft Corp.

Designated the Hiller E4, the 4-

place helicopter is powered by a 320 hp Lycoming engine, a more powerful version of the same engine that lifted a 12E copter to a world record rescue at 18,000 feet on Mt. McKinley, Alaska earlier this summer.

According to the announcement, the E4 is the only 4-place business version in the United States with the performance to climb vertically when fully loaded. The E4's verified climb rate is 820 feet per minute.

"This margin of power increases the versatility of the E4 in two ways," said Richard L. Peck, chief test pilot for the aircraft builder. "First, it can do the heavy duty hauling and lifting the 12E's noted for. But secondly, this extra power is a big margin of safety for executive and other high priority passenger transport."

For information on dealers or chartered helicopter services, write Commercial Division, Hiller Aircraft Corp., Palo Alto, Calif.

Iowa-Illinois Gas & Electric Company Adds 125,000-KW Generating Unit

CONSTRUCTION of the main framing for a 125,000-kw generating unit at Riverside generating station—largest ever built by the Iowa-Illinois Gas & Electric Company—has just been completed at Davenport, Iowa. The \$20 million unit, scheduled for operation in May 1961, will double the capacity of the existing Riverside facilities, according to Charles H. Whitmore, president.

Rock Island Steel Division of Macomber, Incorporated, a Canton, Ohio steel fabricator, delivered the last of the nearly 3,000 tons of steel used in the structure, in April. This included 2,550 tons of structural steel for use in the 160-foot-high main frame (which included approximately 58,000 high-strength bolts for field connections). An additional 310 tons of steel, also furnished and fabricated by Rock Island Steel, went into the elevator framing, conveyor gallery trusses and framing, and structural steel frame for the coal crusher house.

Steel for a 135-ton, 200-foot-high, circular stack was supplied by the same firm and assembly of this unit was sublet to Graver Tank & Mfg. Co. of East Chicago, Ind. Erection of the stack is scheduled for completion by July 1960. Riverside station is one of two generating stations serving the Quad Cities and surrounding area.

Engineers for plant construction Sargent & Lundy, Chicago, Ill.

Heavy-Duty, Full 110 kv Rated 15 kv Oil-Fuse Cutout

FULL 110 kv BIL and heavy interrupting duty are features of new Type FC72, 15 kv oil-fuse cutout announced by G&W Electric Specialty Company. Impulse stand level of the cutout is 11 under the standard 1½ x 40 mm second wave and it has a 60-second one-minute withstand of 50 kv. Cutout can interrupt 7000 amperes asymmetrical single-phase (4200 amperes symmetrical), or 100,000 amperes symmetrical on three-phase applications.

Continuous load-current rating 200 amperes. The cutout will be magnetizing and load currents of 200 amperes at power factors of 20 percent or less while load current up to 300 amperes can be broken where power factors are 50 percent or greater.

In-line construction with operator shaft running horizontally through the cutout dome permits simple installation and operation. Over-center travel locks both "On" and "Off" positions securely. The internal unit with fuses and replacement switch contacts is raised into the dome above the oil when the cutout is switched to the "Off" position. They are accessible when dome swung back on its hinge. Dome cannot be opened while switch is in the "On" position.

For further information write G&W Electric Specialty Company, 3500 West 127th Street, Blue Island, Illinois.

Industrial Telemetry Brochure Available from ASCOP Division

A NEW 8-page brochure describing the ASCOP industrial telemetry equipment is available from the ASCOP Division of Electro-Medical Research, Inc., Sarasota, Fla. The brochure gives features of the ASCOP telemetry system, shows typical line costs and line capacities, describes how the telemetry system works in simple terms; and outlines typical systems. Detailed specifications are included.

The ASCOP telemetry system has found applications in electric and utility systems, oil and gas pipeline transmission systems and others.

PUBLIC UTILITIES FORTNIGHTLY—AUGUST 1960

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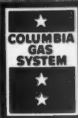
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